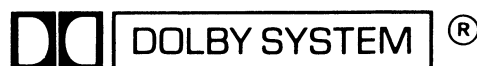




Service Manual



Auto Program Search System



* 'Dolby' and the 'Double-D' symbols are trade mark of Dolby Laboratories.

* Manufactured under licence from Dolby Laboratories.



MODEL SG-460H

In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified be used.

SPECIFICATIONS

GENERAL

Circuit:	Receiver (LW/MW/SW/FM) 4-band superheterodyne stereo tuner-amplifier with FM multiplex circuit with cassette tape-deck and record player system
Power source:	AC 110/220/240V, 50Hz
Power consumption:	210W
Semiconductors:	14-Integrated Circuit 1-FET, 36-Transistors, 73-Diodes 7-LED
Dimensions:	847 (W) x 174 (H) x 395 (D) mm
Weight:	15.2kg

AUDIO SECTION

Music power output:	2 x 42W/4 ohms Both channels driver
Continuous power output:	(at 1% distortion) 2 x 30W/4 ohms Both channels driver
Frequency response:	30 ~ 20,000Hz
Channel separation:	48dB (1kHz)
Tone control:	Bass $\pm$ 10dB (100Hz) Treble $\pm$ 10dB (10kHz)
Input sensitivity and	Input impedance:
	Microphone . 1mV/10kohms
	REC/PB. . . . 300mV/47kohms
Output level and output impedance:	
	Speaker 4ohms
	Headphones . 8ohms
	REC/PB. . . . 30mV/100kohms

FM SECTION

Frequency coverage:	87.6 ~ 108MHz
Usable sensitivity:	1.88 μ V (40kHz deviation, S/N = 26dB)
S/N ratio:	60dB
Frequency response:	30Hz to 15kHz
IF rejection:	80dB
Image rejection:	50dB
Selectivity:	40dB (300kHz)
Capture ratio:	1.5dB

FM STEREO SECTION

Stereo Separation:	40dB
--------------------	------

Distortion:	0.5%
19kHz rejection:	40dB
38kHz rejection:	40dB

AM SECTION

Frequency range:	LW 150 ~ 370kHz MW 520 ~ 1620kHz SW 5.95 ~ 18MHz
Sensitivity:	LW 200 μ V/m MW 250 μ V/m SW 63 μ V
IF rejection:	50dB (at 600kHz)
Image rejection:	46dB (at 1400kHz)

TAPE RECORDER SECTION

Type:	4-track 2-channel stereo cassette tape deck
Tape:	Philps standard compact cassette tape
Tape speed:	4.76 cm/sec.
Recording system and bias frequency:	AC bias (53.5kHz)
Erasing system:	AC erase (53.5kHz)
Track system:	4-track 2-channel
Frequency response:	30Hz ~ 15kHz (CrO ₂ tape) 30Hz ~ 15kHz (FeCr tape) 30Hz ~ 14kHz (Normal tape)
S/N ratio:	52dB
Wow and Flutter:	0.2%
F.F or REW time:	100 sec. (Using C-60)
Channel separation:	25dB (1kHz)
Erase ratio:	60dB
Motor:	12V DC motor with electrical governa

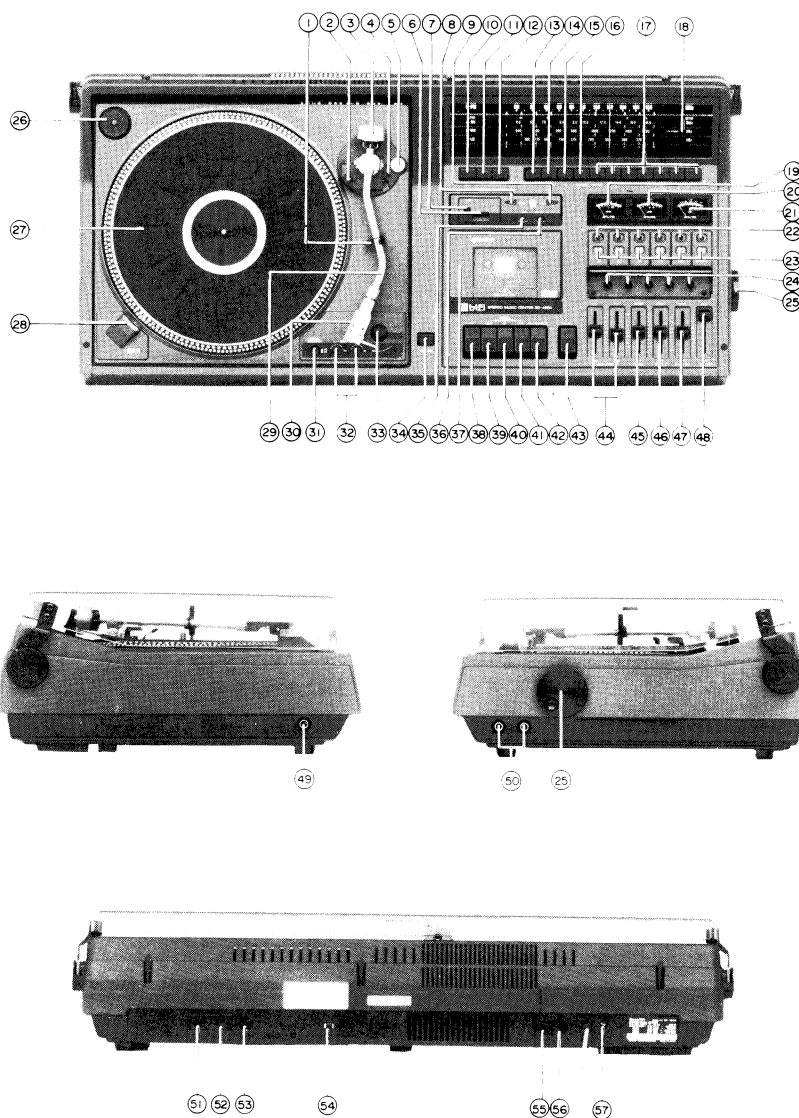
RECORD PLAYER SECTION

System:	2-speed belt drive type
Motor:	DC Motor with FG servo circuit
Speed:	33-1/3 or 45 r.p.m 2-speeds
Wow & Flutter:	0.15%
S/N ratio:	55dB
Cartridge:	Magnetic (IM)
Stylus pressure:	2.5g
Frequency characteristic:	20Hz ~ 15,000Hz

Specifications are subject to change without prior notice.

SHARP CORPORATION OSAKA, JAPAN

LOCATION OF CONTROLS



- | | | |
|-------------------------------|--------------------------------------|---|
| 1. Tonearm rest | 20. Tuning/R-ch level meter | 39. Rewind/Reverse APSS key |
| 2. Tonearm lifter | 21. FM pre-set meter | 40. Play key |
| 3. Counter weight | 22. FM pre-set indicator | 41. Fast-forward/Forward APSS key |
| 4. Cueing control lever | 23. FM pre-set controls | 42. Stop key |
| 5. Anti-skating control | 24. FM pre-set tuning controls | 43. Pause key |
| 6. Digital tape counter | 25. Tuning control | 44. Record level controls |
| 7. Tape counter reset button | 26. Adaptor for 17 cm (7") EP-record | 45. Bass control |
| 8. Reverse APSS indicator | 27. Turntable platter | 46. Treble control |
| 9. Forward APSS indicator | 28. Stroboscope lamp | 47. Balance control |
| 10. ALC switch | 29. Tonearm | 48. Volume control |
| 11. Dolby N.R. switch | 30. Head-shell | 49. Headphones jack |
| 12. FeCr-Normal tape selector | 31. Speed selector | 50. Microphone jacks |
| 13. Stereo-Mono selector | 32. Pitch control knobs (33/45 rpm) | 51. FM aerial socket |
| 14. FM muting switch | 33. Operation lever | 52. LW/MW/SW aerial socket |
| 15. AFC switch | 34. Power switch | 53. Record/Playback socket (REC/PB) |
| 16. Loudness switch | 35. Record indicator | 54. R.I.F. (Radio Interference Filter) switch |
| 17. Function selector | 36. Dolby N.R. indicator | 55. R-ch speaker socket |
| 18. FM stereo indicator | 37. Cassette holder | 56. L-ch speaker socket |
| 19. L-ch level meter | 38. Record key | 57. Mains voltage selector |

DISASSEMBLY

- * Disconnect all leads connected to the back of the unit.
- * Refer to Figures 2 and 3.

A DUST COVER REMOVAL

1. Fully open the dust cover.
2. Remove two (2) hinges by moving the dust cover to the direction of arrow mark.

B PLAYER UNIT REMOVAL

1. Remove the turntable sheet.
2. The belt becomes visible on the motor pulley when the turntable is rotated: remove the belt. (Refer to Figure 2)
3. Remove the turntable and the screw retaining the player unit.
4. Lift up the player unit, and disconnect two (2) sockets (CNS51, CNS702)

C TOP CABINET REMOVAL

1. Remove the player unit as described in player unit removal.
2. Remove seven (7) knobs (REC LEVEL/BASS/TREBLE/BALANCE/VOLUME/TUNING).
3. Remove nine (9) screws retaining the top cabinet.
4. Gently lift up the top cabinet.

D TAPE DECK UNIT REMOVAL

1. Remove the top cabinet as described in top cabinet removal.
2. Disconnect two (2) sockets (CNS301, CNS701) connected to the tuner switch P.W.B. and power P.W.B.
3. Remove seven (7) screws retaining the tape deck unit.
4. Gently lift up the tape deck unit.

E BOTTOM COVER REMOVAL

1. Remove two (2) screws retaining the bottom cover.

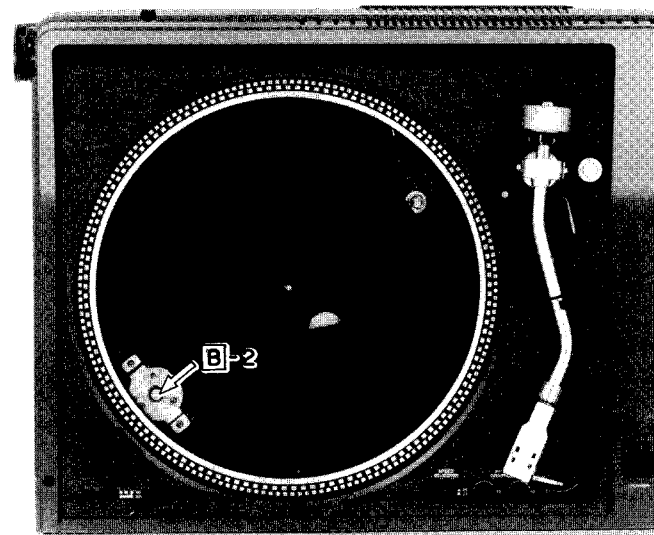


Figure 2

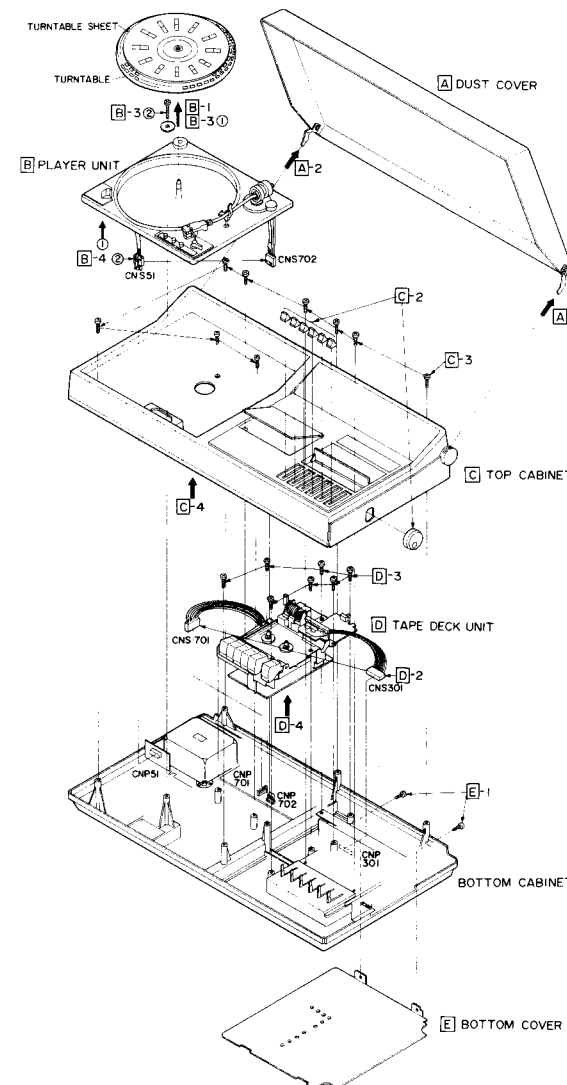


Figure 3

VOLTAGE SELECTION

- Before operating the unit on mains, check the pre-set voltage. If the voltage is different from your local voltage, adjust the voltage as follows: Rotate the plug of the voltage selector by using a screwdriver so that your local voltage number can be seen.

This receiver is adjusted to an AC power frequency of 50Hz.

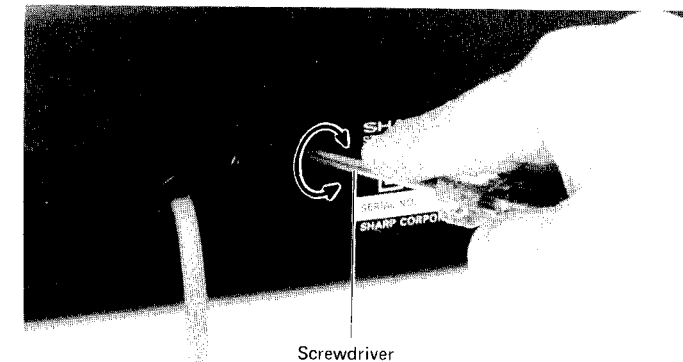


Figure 4

DIAL CORD STRINGING (Refer to Figure 5)

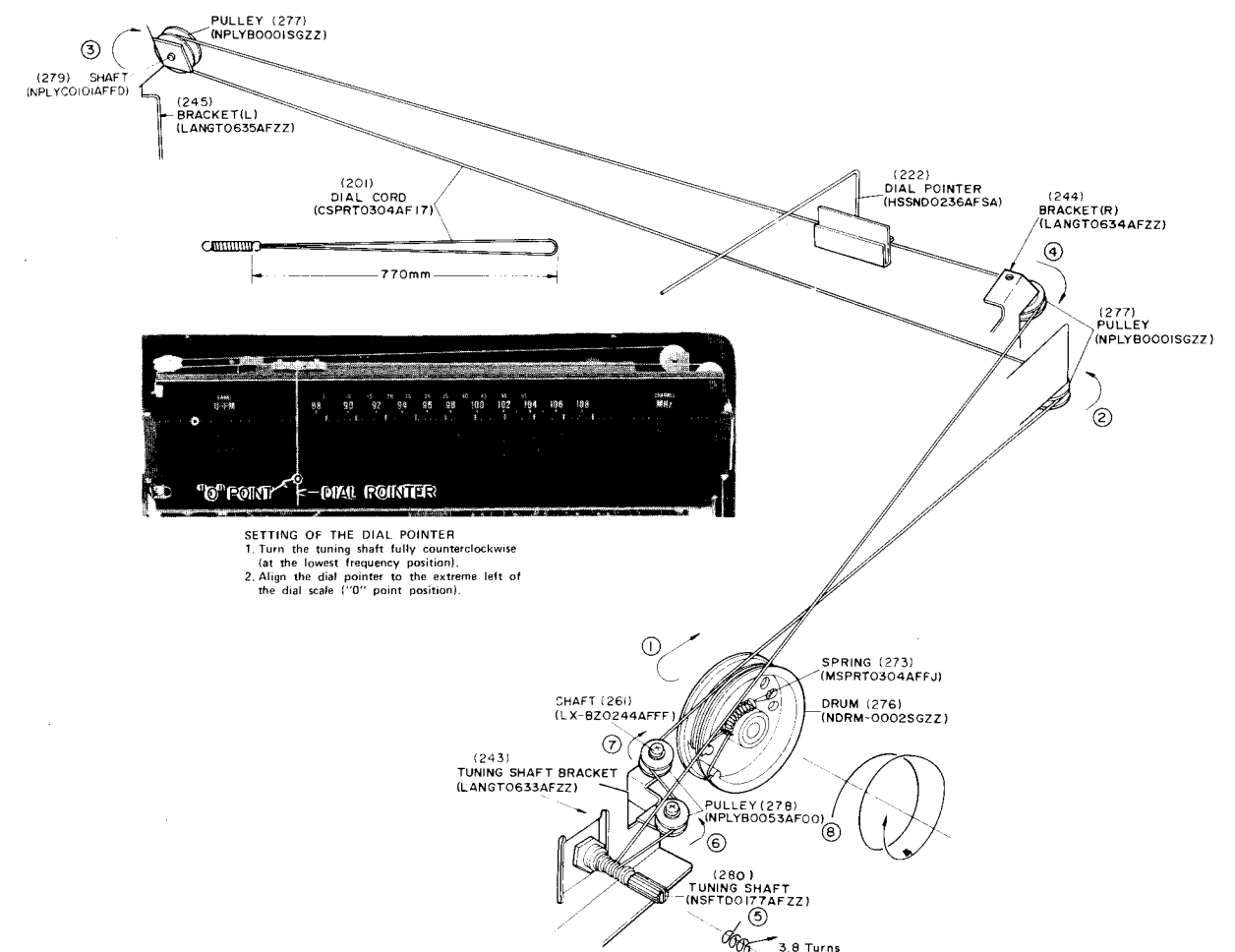


Figure 5

DESCRIPTION OF APSS

APSS is an abbreviation of Auto Program Search System uniquely developed by SHARP, which can automatically detect the starting position of each program. With the APSS system, if the fast forward key (or rewind key) is depressed during playback mode, the tape is fast forwarded (or rewound) to the starting position of the next (or present) program and then the fast forward (or rewind) key is automatically released to make the mechanism be put in playback mode. While the APSS is in operation, the tape is forwarded (or rewound) 10 to 21 times as fast as in playback mode.

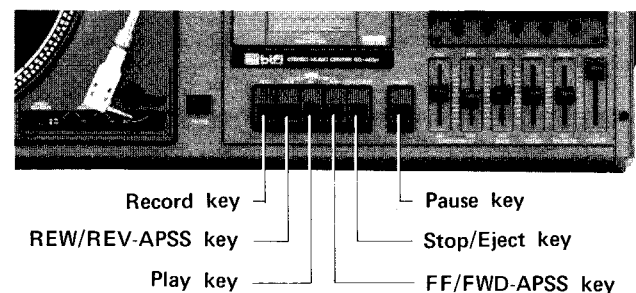


Figure 6

OUTLINE OF APSS

MIXING AND LIMITER AMP

This amplifier is composed of IC802 and serves to mix equalizer amplifier outputs of right and left channels. Moreover it serves to amplify the output of mixer amplifier to the level where the APSS starts to operation.

SWITCHING CIRCUIT

This switching circuit is composed of Q501. Switching of the Q501 enables C502 to be charged.

TIME CONSTANT CIRCUIT

This time constant circuit is composed of R503, C502.

LEVEL COMPARISON CIRCUIT

This level comparator is made of Q502. When the set gets in APSS operation, there appears output of the limiter amplifier to turn on Q501 so that the capacitor C502 be charged by the time constant circuit C502 and R501, thus resulting in the Q502 being turned on. When no output is then produced from the limiter amplifier with the tape being at a non-signal recorded part, the Q501 is turned off and the C502 once charged is discharged by the time constant circuit C502 and R503 so that the Q502 be turned off when its base potential reaches a certain reference voltage.

SOLENOID CONTROLLED CIRCUIT

This plunger controlled circuit is composed of Q503. When Q502 is switched over from on to off, C503 is charged resulting in that the Q503 be switched over from off to on. Thus, the solenoid operates to release the locked FF (or REW) key and put the set in playback mode again.

TAPE SPEED

If the FF (or REW) key is depressed with the set in playback mode, it is put into APSS mode. That is to say, the APSS indication lamp lights up and the tape is transported nearly as fast as in FF (or REW) mode, i.e. 10 to 21 times as fast as in normal playback mode. If the APSS mode is canceled by the function of plunger, the tape speed is reduced to the normal playback speed.

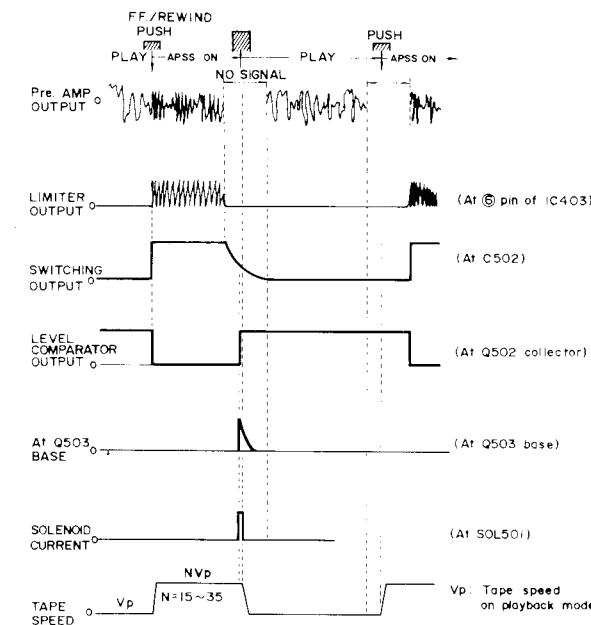


Figure 7

FUNCTION OF APSS

The following are detailed functions of the system. During playback mode, signals amplified by IC801 A and B enter the mixer/limiter amplifier (IC802). The signals from IC801 A and B are mixed, amplified and limited by IC802 and the output of IC802 makes Q501 be switched over to charge C502.

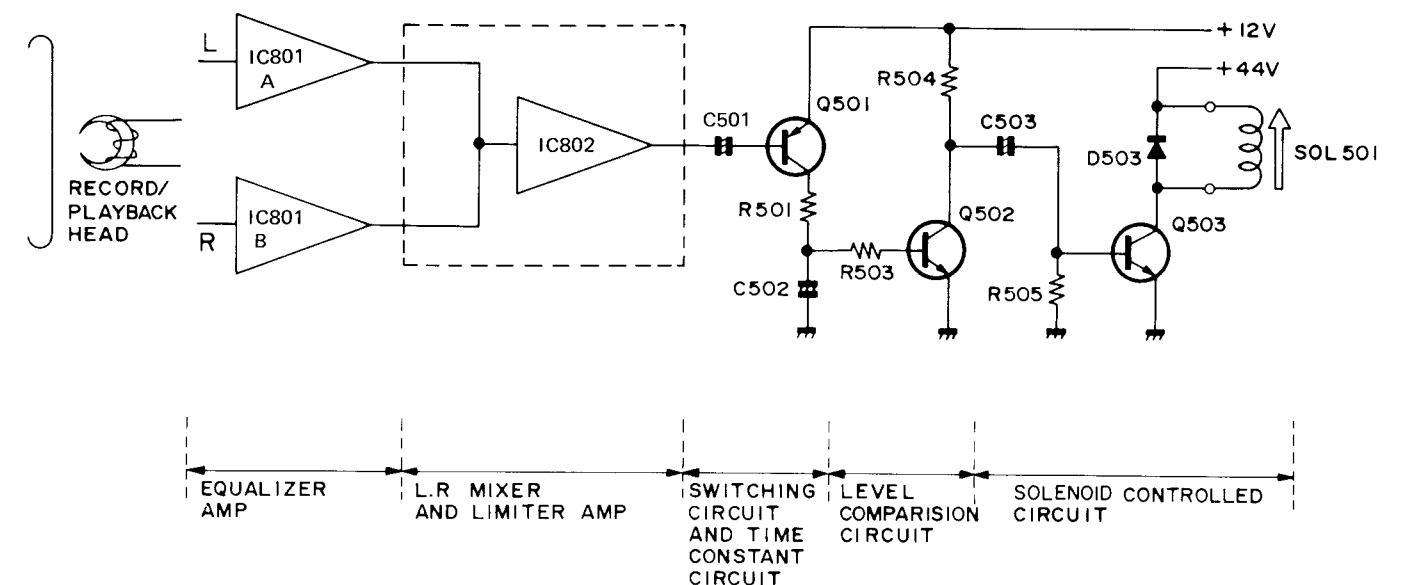


Figure 8

Note 1

When such tapes as described below are used, the APSS may not function normally, causing tapes to stop in the middle of a program or to overrun the non-signal segment between programs.

- * Tapes which contain intermittent-sound programs such as conversation, lectures and news, etc.
- * Tapes which contain pianissimo-featured classical music, solo-performance modern jazz or music, that has much muting.
- * Tapes which have low recording level through out the programs.
- * Tapes which are provided with too short interval between programs (less than 3 seconds).
- * Tapes which include outstanding mixed noise or hum between programs.

Note 2

Note that the APSS cannot function even if the FF (or REW) key is pressed while the tape is being at the blank area between programs.

Note 3

- ① When the FORWARD APSS is operated within about 10 seconds (as measured in playback mode) after termination of a program.
- ② When the REWIND APSS is operated within 10 seconds after the start of a program. In the above-mentioned cases ① and ② the part adjacent to the concerned program may be also fast forwarded (or rewound) as shown in Figure 9.

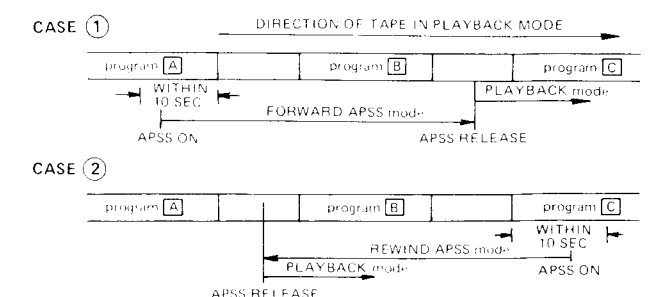


Figure 9

FUNCTION OF FULL AUTO STOP SYSTEM

This unit employs a system in which the Hall IC (IC501) detects a variation of magnetic field caused by the rotation of a magnet mounted on the counter shaft. While the magnet on the counter shaft rotates (in playback, record, fast forward and rewind modes), the Hall IC (IC501) is turned on and off alternately to produce pulses at its pin ③ and the pulses thus produced by the Hall IC (IC501) are rectified by the diode (D508) to charge a capacitor (C506) negatively. As a result, the potential at the base of transistor (Q504) reaches approx. -1.0 V, resulting in no operation of multi-vibrator consisting of transistors (Q504 and Q505). On the other hand, when the rotation of magnet on the counter shaft is stopped (i.e. when the tape reaches its end in playback, record, fast forward and rewind modes), the Hall IC (IC501) is kept turned on (or off) continuously

to produce no pulses so that the capacitor (C506) be stopped to be charged negatively.

This allows a current to flow through resistor (R510), causing capacitor (C506) to be charged positively. As a result, the potential at the base of transistor (Q504) exceeds 1.5 V, which actuates the multivibrator consisting of transistors (Q504 and Q505) to turn them on and off alternately and repeatedly. When Q504 is turned on, Q503 is turned on to allow a current to flow into solenoid (SOL 501).

As a result, the core of solenoid is attracted to put the mechanism in the stop mode. When the tape reaches its end in the APSS (Auto Program Search System) mode, the APSS key is unlocked due to the first attraction of solenoid and the play key is unlocked due to the second attraction, which put the mechanism in the stop mode.

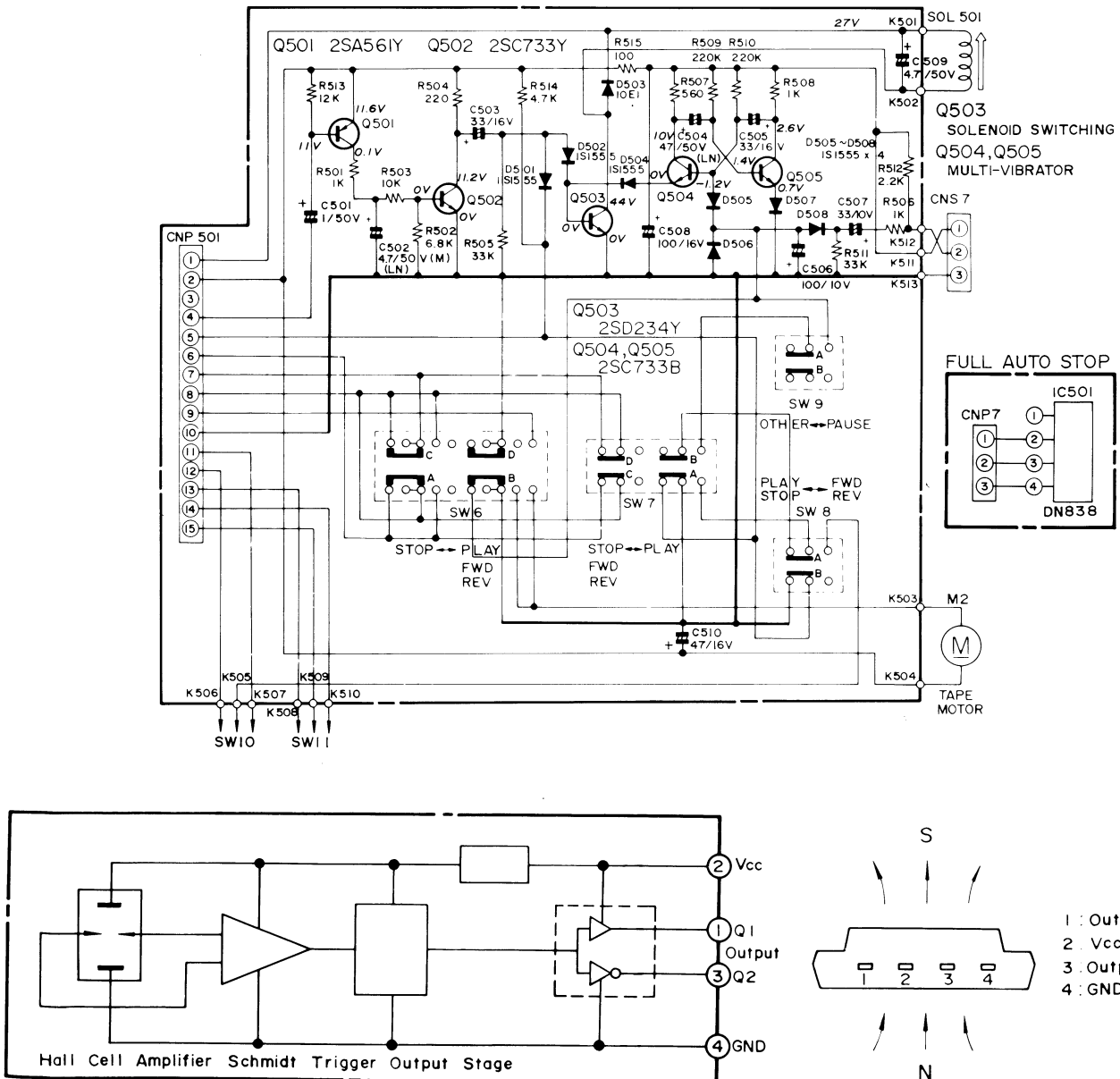


Figure 10

FUNCTION OF DOLBY SYSTEM

DOLBY NR SECTION

The amplifier circuits (A) and (B) are ordinary type. But the Dolby Summing (E) is an amplifier circuit that inverses only the polarity, having the gain of 1. Dolby Side Chain (F, C, D, G) is high-speed limiter that operate on high- or medium-frequency.

The Fig. 11 shows the input/output characteristic curve of the Dolby Side Chain circuit and the curve varies according to the change of frequency.

The frequency characteristic is as shown in Fig. 12 and it is the same as that of the high-pass filter of 6 dB/octave. The turnover frequency of the curve also varies according to the change of input level.

If the output signal from Dolby Side Chain circuit shown in Fig. 11 or 12 and ordinary signal from the amplifier circuit (B) are supplied to the Dolby Summing (E) circuit, these two signals are added to the each other in the record mode showing a compressor characteristic while they are subtracted from the each other in play mode showing an expander characteristic — the input/output characteristic shown in Fig. 13 is obtained at Rec. Amp. terminal.

Dolby Side Chain Circuit

The characteristic of the high-pass filter of 6 dB/octave shown in Fig. 15 is obtained by that the composite impedances with C847 (848), C843 (844), C839 (840), R859 (860), R851 (852) and R853 (854), and the filter impedance are added to the each other to form an attenuator. The input/output characteristic in Fig. 12 is obtained by that DC voltage in proportion to the input is fed back to the attenuator (F). The circuit (C) increases the output of the attenuator to the specified voltage to supply the output to the Dolby Summing Circuit. The circuit (D, G) generates DC voltage and it also controls attack time and recovery time of the limiter.

Simultaneously, AC signal is applied to DC voltage to become NF signal being fed to the circuit (F), in order to reduce the distortion. The Fig. 14 represents all the blocks composing of the Dolby Side Chain circuit and shows how they are operating.

Described as above, the Dolby NR circuit compounds linear signal and non-linear signal to produce compressor characteristic in record mode and expander characteristic in playback mode — if these two characteristics are mixed, an original linear characteristic is restored. Thus, noise is reduced because high-frequency signal is attenuated when it passes through the expander circuit.

Cautions on Repairing

- 1) The following parts out of those which are used for Dolby circuit P.W.B. should be at less than the error of $\pm 5\%$.
R851, R852, R853, R854, R843, R844, R847, R848, C847, C848, C843, C844, C839, C840, C845, C846
- 2) The following parts should be those with the error of within $\pm 10\%$.
C829, C830, C831, C832

- * If the following tapes are used under DOLBY NR mode, high-frequency may be lowered. BASF standard tape.
- * If you repair the unit owned by a user who employs the tape of a particular brand, it is recommendable when servicing to use the same tape as used by the user.

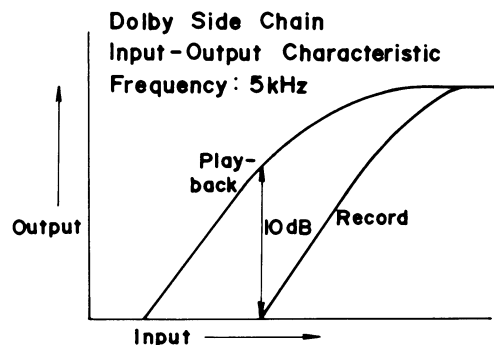


Figure 11

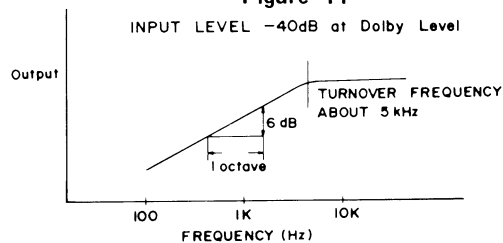


Figure 12

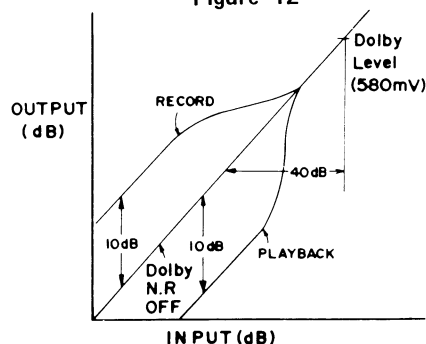


Figure 13

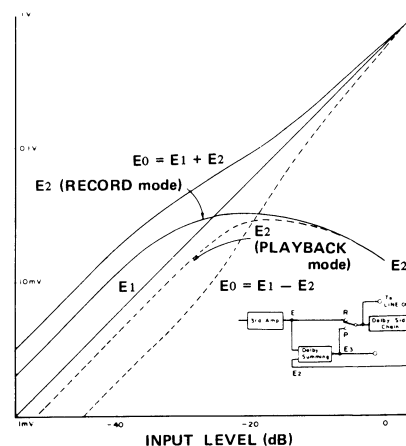


Figure 14

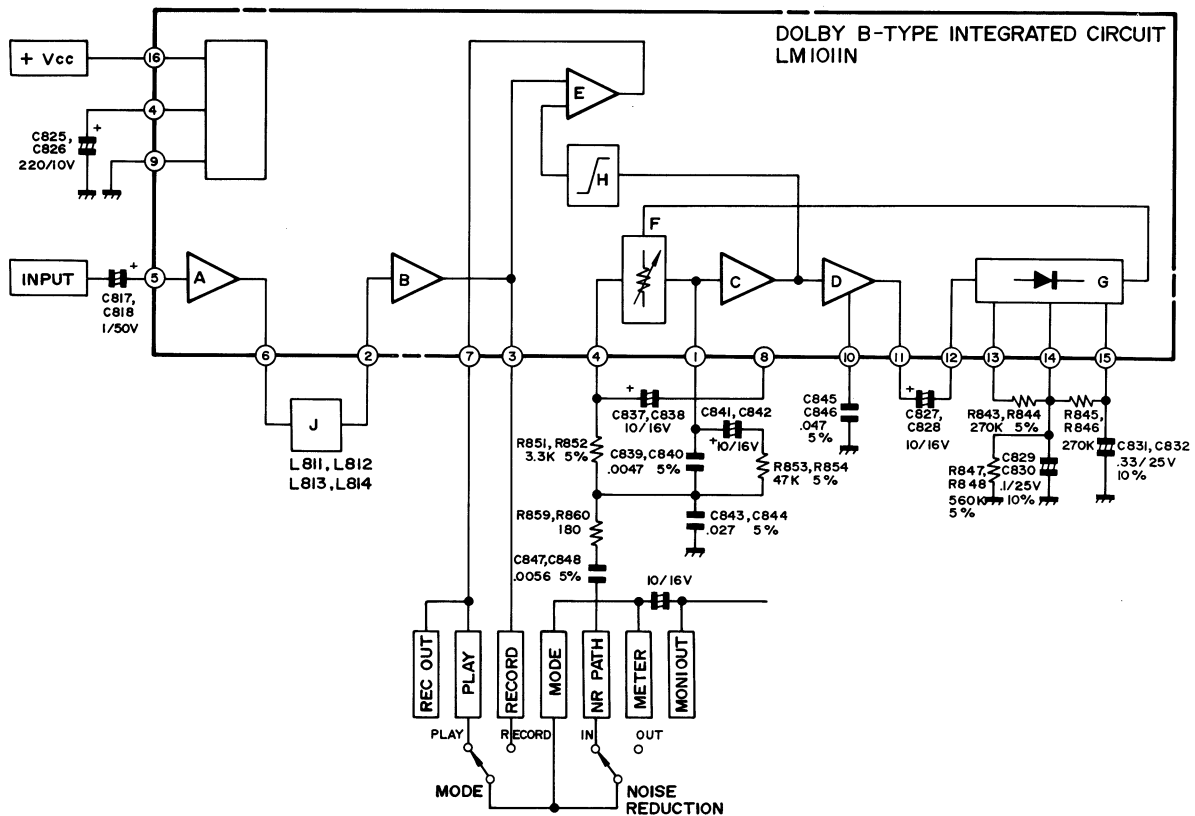


Figure 15

DESCRIPTION OF TUNER CIRCUIT

AM SECTION (Refer to Figure 16)

An AM signal enters the unit through ferrite bar antenna L109 (MW/LW) or SW antenna coil L303, and the signal fed to pin (1) of IC for AM, IC103, is amplified by IC103, and is fed to MIXER stage through pin (3) and T104. T104 serves to prevent IF frequency interference. AM IFT (T103) with ceramic filter serves as a load for MIXER. After con-

verted to intermediate frequency by oscillation frequency fed from local OSC, Q301, the signal is amplified by IF amplifier and further detected through AM IFT coil T105. This IC incorporates meter drive output circuit pin (14) and AGC circuit.

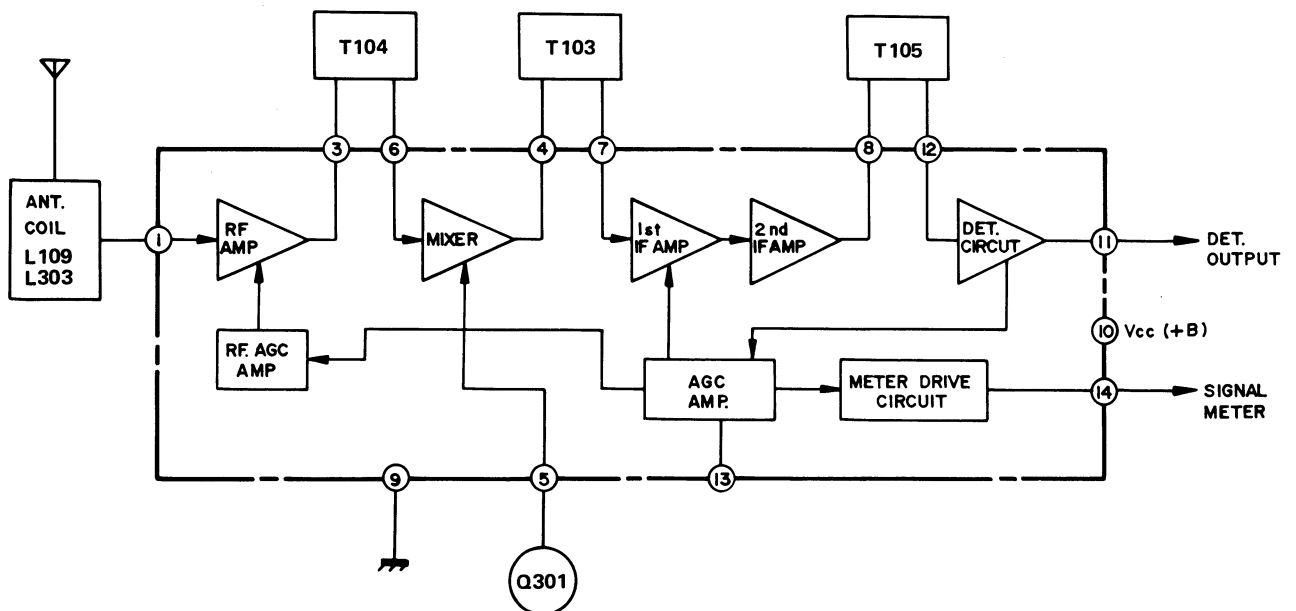


Figure 16 BLOCK DIAGRAM (IC103)

FM TUNER SECTION (Refer to Figure 17)

The tuner of this set is a preset tuner. In the preset tuner variable capacitive diode is used instead of variable capacitor. Variable capacitive diode is kind of diode, in which the stray capacity between its poles varies in accordance with DC voltage applied to the poles. Since the tuning knob is interlocked to the volume, when the tuning knob is operated the volume also operates to apply the voltage to the variable capacitive diode. The more the voltage applied to the variable capacitive diode D253 increases, the more the stray capacity between poles decreases. Local oscillation frequency depends upon oscillation coil L254 and stray capacity diode of D253 and when the voltage applied to D253 becomes smaller, stray capacity also becomes smaller, while oscillator capacity larger, Antenna tuning frequency and RF tuning frequency are determined as the above.

Like this, the preset tuner is so designed that it selects the receiving frequency by applying DC voltage to D251–D254. This tuner is provided with five preset tuning controls enabling preset tuning in addition to the manual tuning described above. The preset tuner is provided with five pieces of preset tuning controls whose knobs have LED's on the top center respectively. The knobs are touch preset knobs for selecting stations. If any of the knobs is touched, its LED light up, and preset tuning stands by, while turning the tuning knob corresponding to the concerned channel, tune in to desired station. RF signal received by balanced 300-ohm FM antenna is amplified at FET Q251, and is mixed in frequency by FM OSC of Q253, and Q252. The signal, converted into 10.7MHz IF signal, is fed to T251 of IFT. The frequency preset station is indicated on FM pre-set meter. In manual tuning, however, the needle of FM pre-set meter does not swing at all.

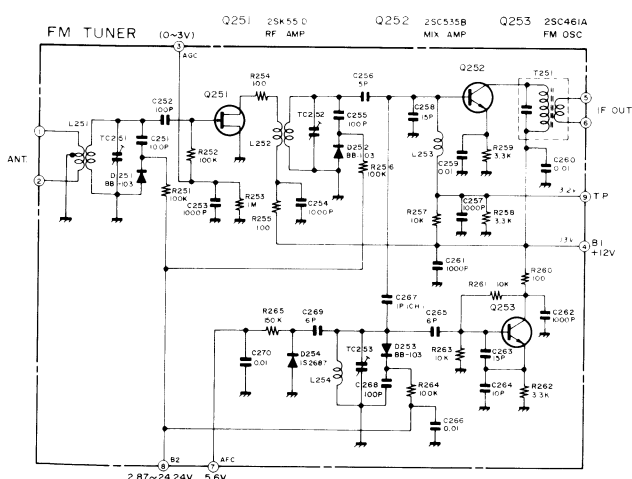


Figure 17

FM IF SECTION

Coming from the FM tuner, the IF signal is amplified by the Q101 and then passes through the ceramic filters CF-1 and CF-2. The IF signal is then amplified by the IC101 which consists of 3 stages differential amplifiers. This IC (IC101) can control AFC voltage, meter output voltage; forced monaural output and muting operation.

FM AGC SECTION

In FM AGC the output of Q101 is partially taken out, and is applied to Q251 gate after subjected to full-wave rectification by D101 and D102.

FM STEREO DEMODULATOR SECTION (IC102)

This set incorporates a stereo demodulator circuit that comprises IC's with the PLL (Phase Locked Loop) system applied. The PLL (Phase locked Loop) FM demodulator circuit is provided with such characteristics as mentioned below.

In order to demodulate stereo composite signals, it is necessary to take a 19kHz pilot signal out of the stereo composite signals and to make it a 38kHz signal.

Most of the conventional methods to obtain such a 38kHz signal are frequency doubling ones which utilize an nonlinearity of the elements. Compared with the conventional type, the recently developed IC-ed demodulator provides more sufficient separation effects. However, since it also requires 2 or 3 coils like the conventional one, if even one of them is dislocated from the initially adjusted point due to a secular change the separation effects will be deteriorated. Moreover there is such a contradiction that the more the efficiencies of the coils are increased enough to withstand the outer pulse signals like automobil ignition noises, the more the coils suffer secular changes.

To eliminate such disadvantages as above, PLL (Phase Locked Loop) system is employed in the method to make a 38kHz signal using a 19kHz pilot signal.

The PLL system stereo demodulator gives such three merits as:

1. Since the phases of a pilot signal and a 38 kHz signal are automatically made the same with each other, the deterioration of separation effect is strongly minimized.
2. Since only one of variable resistor, being newly employed, plays the role of 2 to 3 pieces of conventional coil, troubles of the parts due to secular changes are decreased. In addition, even if this variable resistor is slightly dislocated, the separation effect will never be deteriorated because of the merit as mentioned in 1 by which the automatic phase adjustment is assured.
3. Compared with the conventional one, the PLL system demodulator shows a more noise withstanding characteristic since it has such performances as the selection of frequencies and the continuity of oscillation frequencies (short-time memory), thus assuring a stable stereo demodulation.

FM DETECTOR SECTION (Quadrature Detector Circuit)

This unit employs "Quadrature Detector" based on newly developed IC (Integrated Circuit), which is substituted for ratio detector and Foster-Seeley's detector that have been so far used. The basic structure of quadrature detector circuit is as shown in Fig. 18.

With this detection system, the multiplier quadrature detector circuit receives two types of input signals, one is the signal which has been amplified by the limiting amplifier and another which has passed through the phase shift circuit. (about $\pi/2$). Thus, the quadrature detector circuit produces demodulation signal.

The term "quadrature" is resulted from that the phase difference between these two signal is $\pi/2$. The multiplier consists of doubly balance circuit as shown in the following circuit drawing. Phase characteristic of the phase shift Circuits is as shown in Fig. 19.

This circuit is featured by:

- (1) Good linearity and low distortion.
- (2) Operates on small signal and less higher harmonics.
- (3) Wide-band detection of as much as 1.5MHz.

Therefore, this circuit assures low distortion even with the overmodulation of more than 100% thereby reproducing high quality sound.

As to the detector circuit of SG-460H; L102 is phase shift coil and T101. T102 detection quadrature coil. The output of detector circuit appears at the pin (6) of IC101 and is supplied to the pin (2) of IC102 (PLL MPX. demodulator).

TOUCH CONTROL SECTION

The touch control section consists of two IC.s (IC401 & IC402), 12V and 24V power source, five pieces of preset controls and touch switch (U1 ~ U5) block, and the 24V power source uses ICnized Zener diode. If a key of touch block is lightly touched by a finger, small current flows into the fingertip to turn on LED and hold the preset station. When the touch knobs is touched, a voltage at pin (2) of IC401 rises from 3V to 4.5V. Thanks to such property the section can reduce unnecessary noise produced in changeover operation by muting FM IF circuit. IC402 is specially designed so that U1 is in operation whenever the unit is turned ON.

As for details refer to "TOUCH IC SECTION (IC401, IC402)".

TOUCH IC SECTION (IC401, IC402)

- The reason why any desired channel can be selected by touching one of the touch knobs (U1 to U5) (Refer to Figure 21).

As no current runs to pin (2) of IC402 on turning the unit on, the potential at the base of Q504 reaches 0 (zero). Consequently, there occurs such a string of actions as Q504 ON → Q506 OFF → Q507 ON → Q508 ON, and further, the following actions take place due to voltage drop in R406; Q408 ON → Q409 ON → Q407 ON. This makes the potential at pin (2) positive, which causes voltage drop in R502 (= 62kΩ) to turn OFF the emitter of Q504 immediately. As a result, the following string of actions take place; Q506 ON → Q507 OFF →

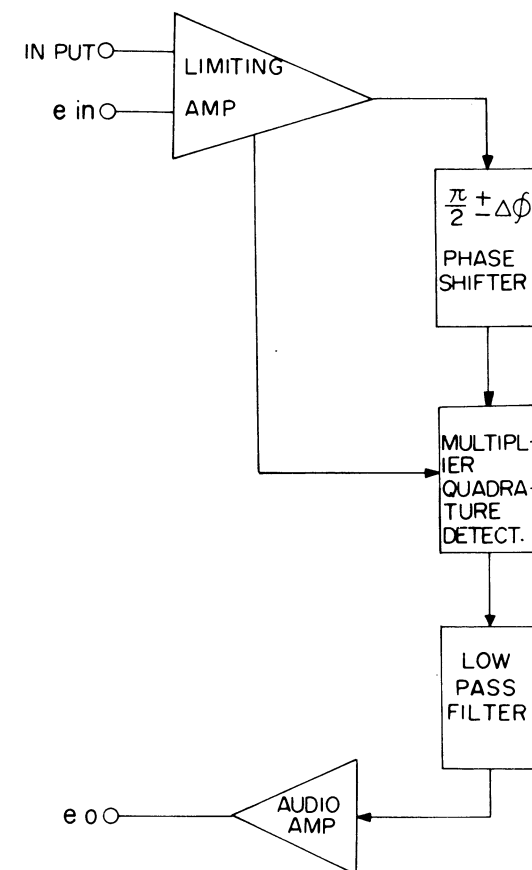


Figure 18

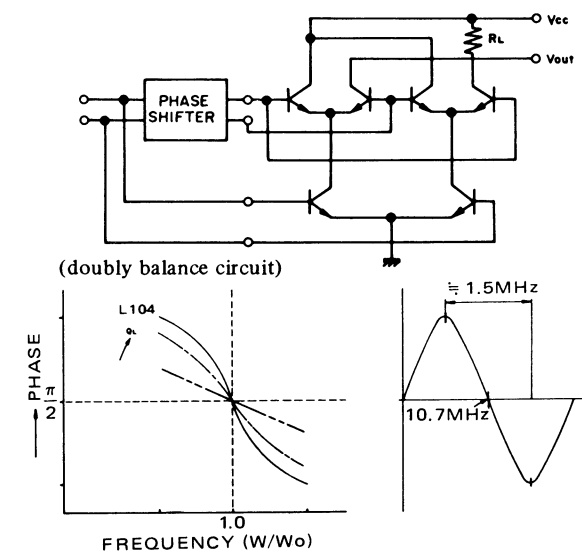


Figure 19

Q508 OFF. Here, R409 receives current enough to turn on Q408 because the resistance at pin (2) is set at small value, which keeps Q407 turned ON.

Q410, Q411 and Q412 are turned ON one after another to turn ON Q413 and Q414 serving as LED drive circuit. The current from Q414 flows into the LED touch plate through pin (9) to make the LED of U1 light up and turn ON Q415, turning output circuit.

Through the above-mentioned process the LED of U1 lights up on power supply, where potential at pin (2) is set in a pair.

Action of Q504 also prevents that all the memory are cleared due to misoperation. As long as no voltage is applied to pin (2), Q504 is immediately turned ON to turn on the LED of U1 as mentioned above. As to IC401, as points *1, *2 and *3 are not connected with each other, the circuit does not function. Therefore, any channels do not function even if the unit is turned ON.

- The reason why the U1 (LED411) can light up when the power switch (SW5) is turned ON. (Refer to Figures 20 and 21).

[Operational explanation of changeover from U1 (in operation) to U2]

If preset knob "U2" is touched, preset terminal of U2, pin (12), is grounded through high resistance of fingertip, which causes the following actions; Q302 ON → Q303 ON. Q305 is turned OFF through Q304 which has been already conducted. Consequently, base potential of Q306 rises to turn it ON. A voltage of about 4.9V (a voltage developed at pin (2) with preset key touched) is applied to a resistance of pin (2) due to current passing through Q306. Due to this current and a voltage drop in R306 (= 1.9k), Q308 and thus Q309 are turned ON, and a voltage determined by R307, R308 and R309 is applied to the base of Q307. Here, this voltage is named VB 307.

Under such state a voltage at the emitter of Q407 for U4 is increased nearly to 4.9V, and therefore Q407 is turned OFF to change over the channel from U1 to U2.

At the final stage of changeover operation (immediately before the preset key is released from finger) the emitter potentials at Q306 and Q307 drop abruptly, but as Q307 receives a current of base voltage VB 307 it is not turned off even if Q306 is turned OFF. As a result,

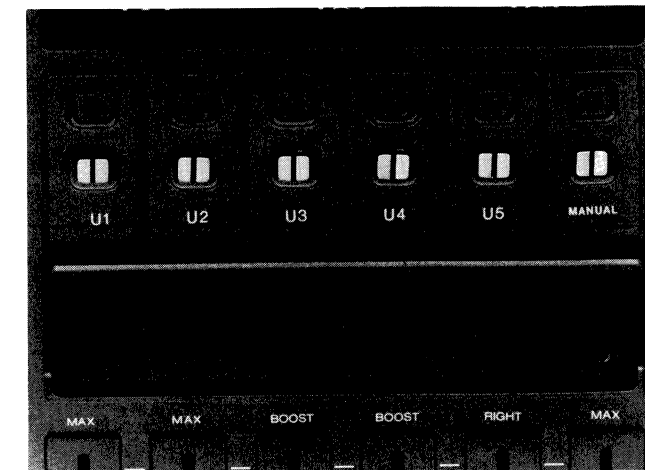


Figure 20

Q310 to Q315 are kept turned ON to retain U2. At this time the voltage applied to the resistor of pin (2) is stabilized at 3V (a voltage which is developed at pin (2) when U2 is retained).

When channel is further shifted, the above-mentioned action is repeated; the existing channel is cleared at 4.9V to put the next channel in operation instead, where the voltage at pin (2) reaches 3V.

- The reason why the two channel selector IC.s (IC401 and IC402) are connected with other in parallel. (Refer to Figure 21)

Parallel connection of IC402 (1 pin) plus IC401 (plural) including the resistor at pin (2) provides four channels. If an IC402 is used, channel returns to U1 whenever the unit is turned ON, which prevents misoperation securely. If only an IC401 is used, however, any channel is out of operation, resulting in misoperation.

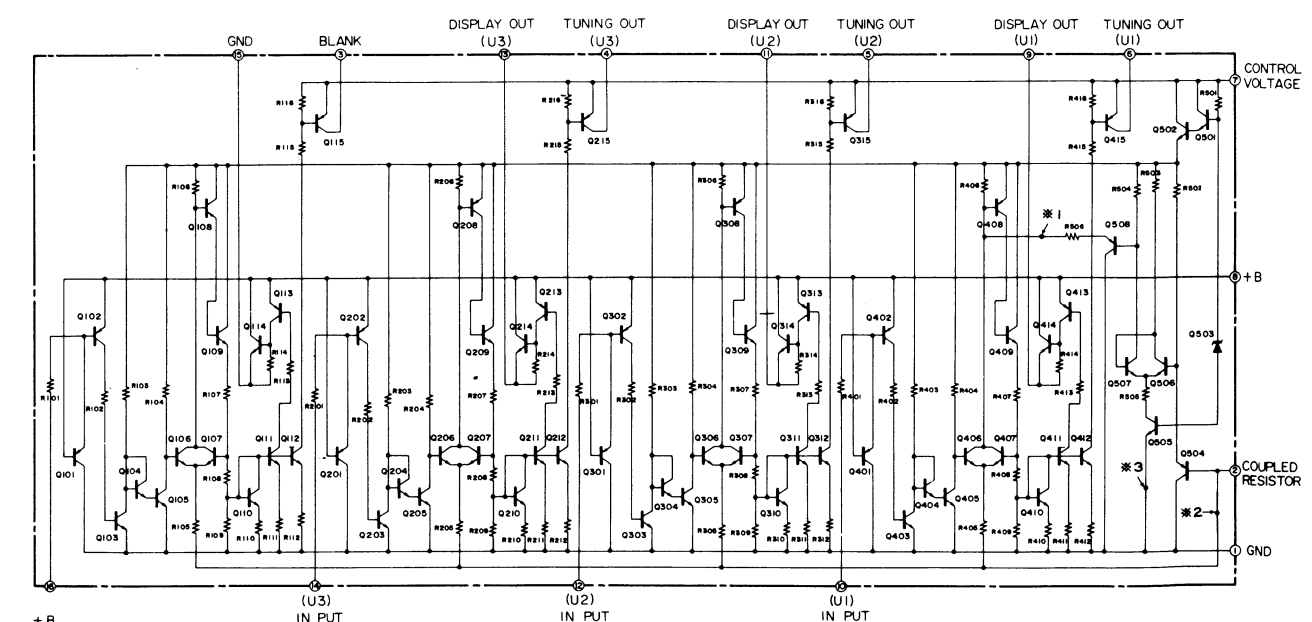


Figure 21

PLAYER ADJUSTMENT

■ MOTOR'S ROTATION ADJUSTMENT

(Refer to Figures 22-1 and 22-2)

The rotational speed of turntable minutely varies according to the hour during a day, therefore, take the following procedures to obtain an exact speed.

1. Turn the pitch control knob clockwise or anti-clockwise to adjust so that the stripe pattern of a stroboscope provided at the platter looks like stationary.

When the stripe pattern is moving in the turning direction of platter, this shows that the rotational speed of turntable is faster than as specified.

In this case, adjust it by turning the pitch control knob toward "S".

Or, when the stripe pattern is moving against the

turning direction of platter this shows that the turntable rotates slower than as specified. In such a case, adjust it by turning the pitch control knob toward "F".

2. When the motor control P.W. board or other electrical parts are replaced for repairing, adjust the turntable speed in the following manner.

1) Set the pitch control knobs to the central position.

2) Adjust the semi-variable resistors (VR1, VR2) so that the stripe pattern of a stroboscope provided at the platter looks like stationary.

VR1 For 33-1/3 r.p.m. Adjust

VR2 For 45 r.p.m. Adjust



Figure 22-1

PHONO MOTOR CONTROL P.W.B.

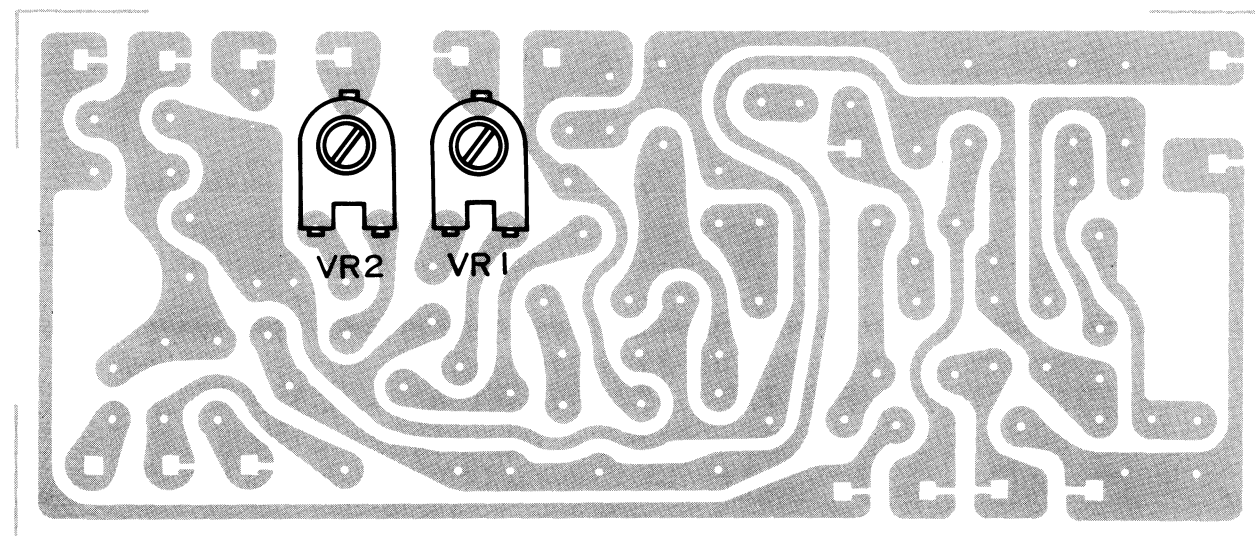


Figure 22-2 ALIGNMENT POINTS (PLAYER SECTION)

MECHANICAL ADJUSTMENT

■ PAUSE MECHANISM ADJUSTMENT

(Refer to Figure 23)

1. Put the mechanism in playback mode and slowly depress the pause key. At the time, see that the take-up idler and take-up turntable come off from each other and also the capstan shaft and pressure roller come off from each other.
2. If it is found that the checking in the step 1 above is not satisfied, further adjust the adjustment point shown in Figure 23.

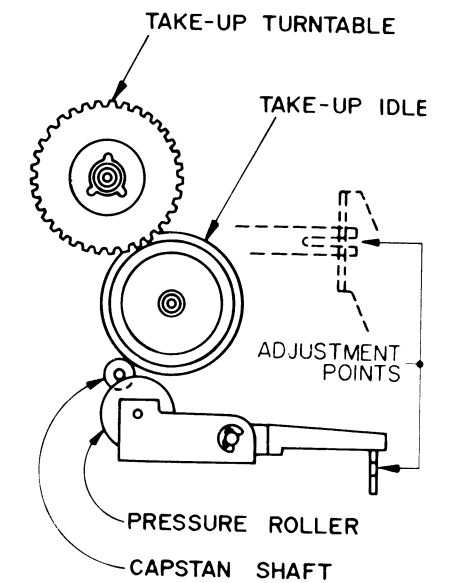


Figure 23

■ PRESSURE ROLLER PRESSURE ADJUSTMENT

(Refer to Figure 24)

1. Set the unit in play mode.
2. Push the point A with use of tension gauge (0 to 500 gr.) to make the pressure roller apart from the capstan shaft. Then, check that the tension gauge will read 250 - 350 gr. when the pressure roller stops to rotate.
3. As a result of the check in the step 2 above, if the readings are found outside the range of 250 - 350 gr., adjust the pressure spring of pressure roller by bending it or replace.

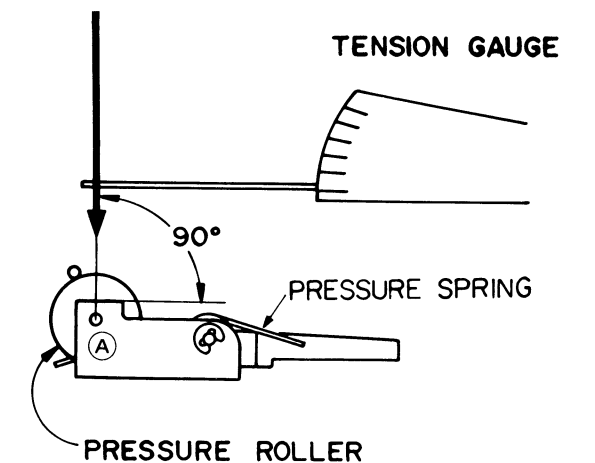


Figure 24

■ FLYWHEEL THRUST CLEARANCE ADJUSTMENT

(Refer to Figure 25)

Slowly tighten the screw for flywheel thrust clearance until the thrust clearance becomes 0 (zero) and loosen the screw by 1/5 ~ 3/5 turn from this point. Since screw's pitch is 0.5 mm, thrust clearance of about 0.1 ~ 0.3 mm is produced.

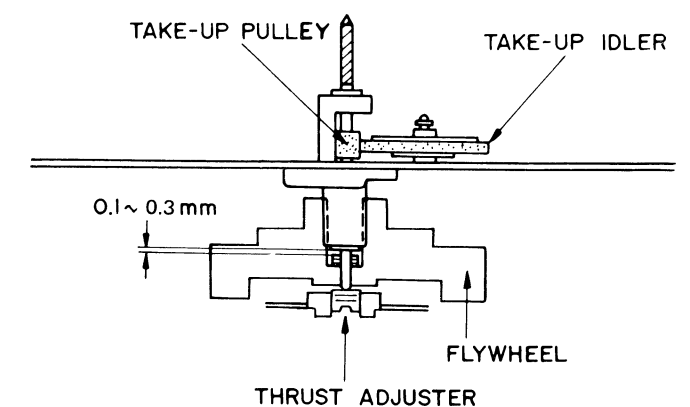


Figure 25

■ TORQUE CHECK

(Refer to Figure 26)

1. Set the torque measuring reel to the turntable (to the take-up side at playback or fast forward mode and to the supply side at rewind mode).
2. Then, rotate the reel in the same direction as for turntable and read the torque value when the pointer is stabilized.

Mode	Torque Value
Playback	35 – 60 gr. cm
Fast Forward	60 – 100 gr. cm
Rewind	60 – 100 gr. cm

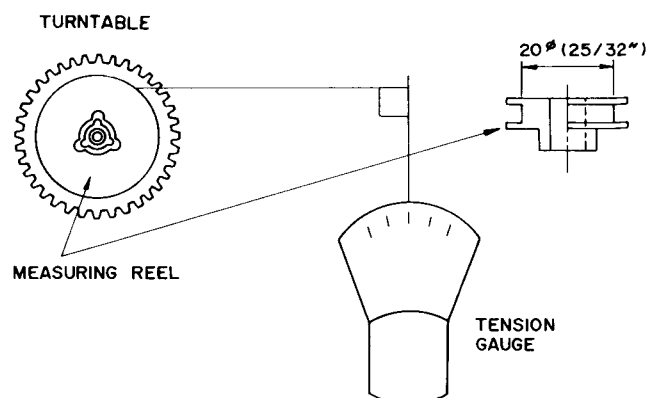


Figure 26

■ AUTO STOP SOLENOID SETTING POSITION ADJUSTMENT

(Refer to Figure 27)

Push the core of auto stop solenoid (SOL 501) and depress the play key.

At the time, adjust the screws retaining the auto stop solenoid so that the mechanism is changed to stop mode.

■ TAPE SPEED CHECK

(Refer to Figure 28)

1. Connect an 4ohm dummy resistor to the speakers socket (SO5 or SO6).
2. Connect a frequency counter across the 4ohm resistor.
3. Place the unit in a horizontal position and playback the test tape (TEAC MTT-111, 250 pWb/mm –10 dB, 3kHz).
4. Ensure that the frequency counter indicates within 3060Hz ~ 2970Hz.

If the tape speed is not within this range, clean the belt, flywheel, capstan, pinch roller and the other running parts. Check the torque of take-up turntable and pressure of the pressure roller. Nevertheless good results can not be obtained, replace the motor.

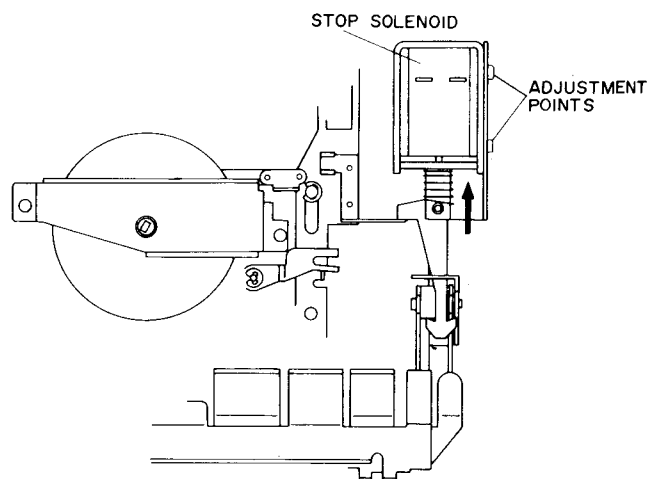


Figure 27

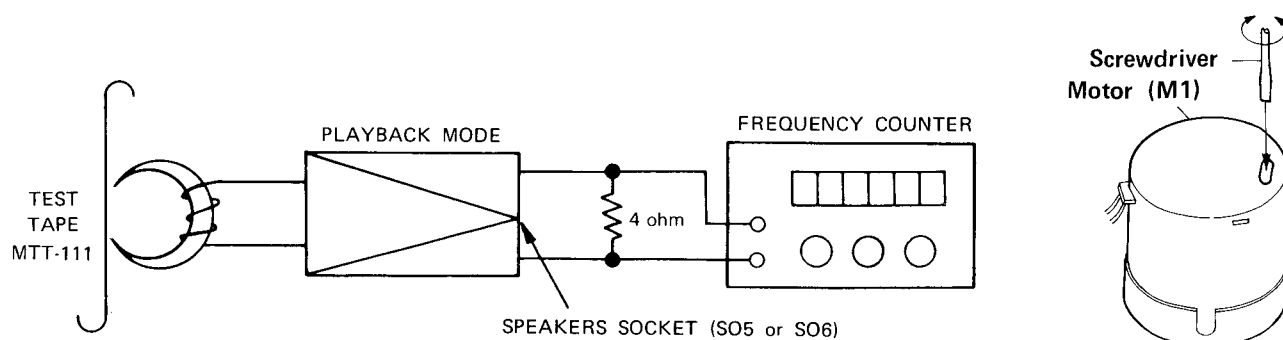


Figure 28

ELECTRICAL MEASUREMENT

* Set the FUNCTION switch (SW1) to the TAPE position.

■ RECORD/PLAYBACK HEAD AZIMUTH ADJUSTMENT

(Refer to Figure 29)

1. Connect load resistor (4ohm) to the speaker socket (SO5, SO6) and further connect the VTVM thereto.
2. Insert the test tape (MTT-114:10kHz, -10dB Recorded).
3. Set the Dolby N.R. switch (SW2-B) and Fe-Cr switch (SW2-A) to the OFF position.
4. Place the unit in PLAYBACK mode.
5. Adjust the head azimuth adjusting screw so that the playback output voltage becomes maximum in both channels.

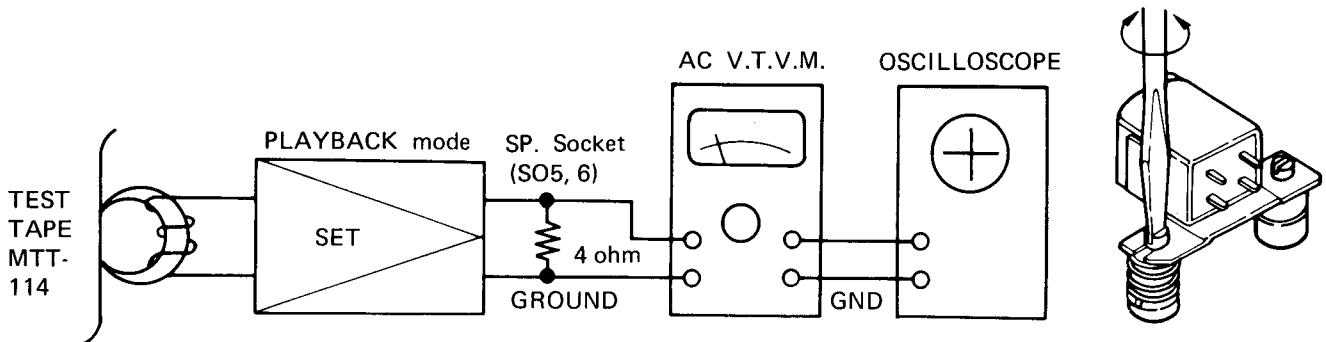


Figure 29

■ RECORD AMPLIFIER BIAS OSCILLATOR ADJUSTMENT

(Refer to Figures 30 and 41)

1. Connect the VTVM across the 100ohm resistor (R801, R802).
2. Set the auto tape selector switch (SW11) and Fe-Cr switch (SW2-A) to the NORMAL position.
3. Place the unit in RECORD mode.
4. Adjust the semi-variable resistor (VR811, VR812) so that the VTVM readings becomes 35mV.
 - * Auto tape selector switch (SW11):CrO₂ position
→ 43 ~ 53mV.
 - * Auto tape selector switch (SW11):Normal position
Fe-Cr switch (SW2-A):ON position
→ 32 ~ 38mV.

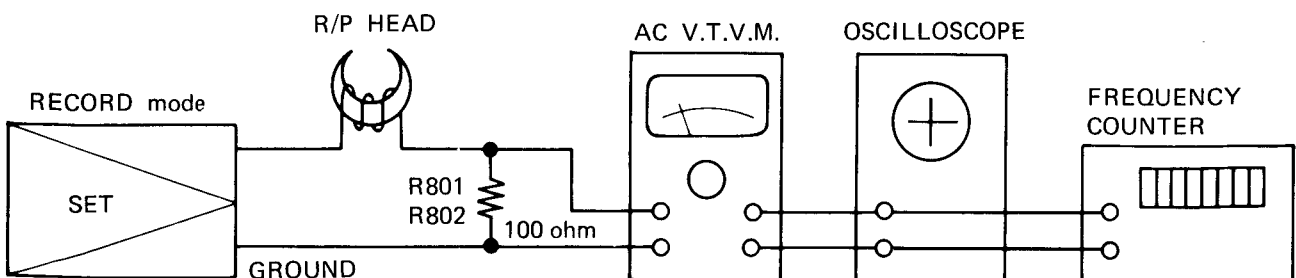


Figure 30

■ ERASE CURRENT CHECK

(Refer to Figures 31 and 41)

1. Connect the VTVM across the 1 ohm resistor (R940).
2. Set the auto tape selector switch (SW11) to the NORMAL position.
3. Place the unit in RECORD mode.
4. Make sure the erase current is 60 ~ 120 mV.
* Auto tape selector switch (SW11) : CrO₂ position
→ 90 ~ 150 mV
5. Make sure the record oscillator bias frequency is 53.5 ± 4 kHz

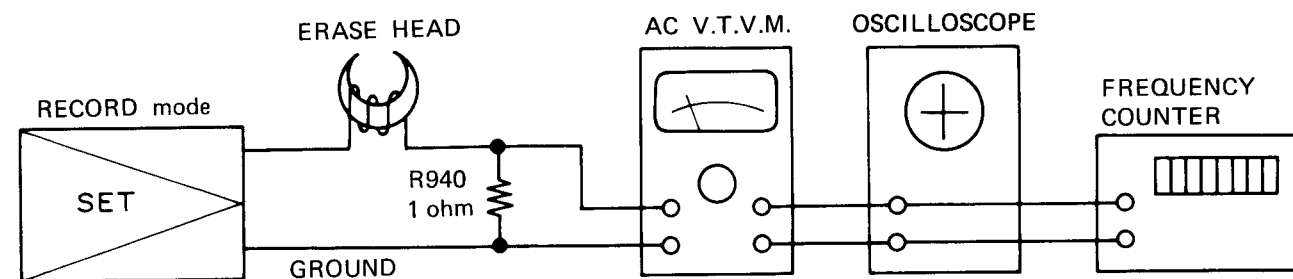


Figure 31

■ RECORD AND PLAYBACK SENSITIVITY ADJUSTMENT (Refer to Figures 32 and 41)

1. Insert the tape (non-recorded), and set the function switch (SW1) to the AUX/MIC position.
2. Connect the C.R. oscillator to the REC/PB socket (SO4) and apply signals (1 kHz, -10 dB) to the unit.
3. Place the unit in RECORD mode, and adjust the REC LEVEL control (VR601, VR602) so that the LEVEL meter indicates "0 VU".
4. Reproduce the tape which has been recorded at the step 2 above.
5. Adjust the * semi-variable resistor (VR805 ~ VR810) so that the LEVEL meter indicates "0 VU". (within ± 0.5 VU)

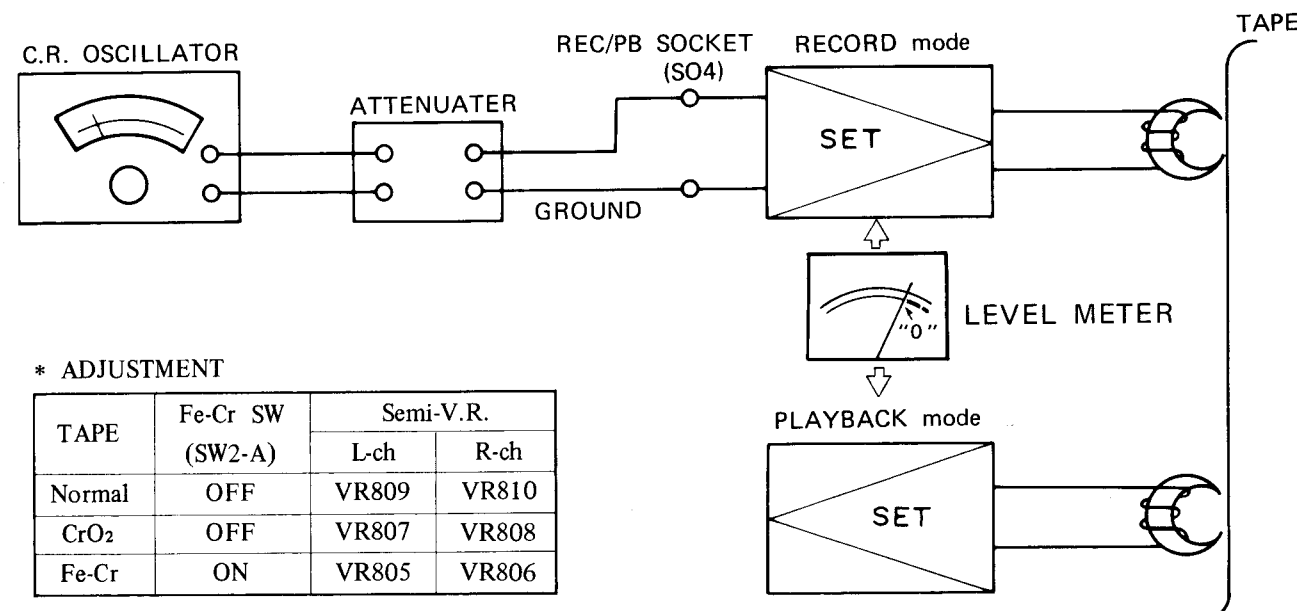


Figure 32

■ PLAYBACK/LEVEL METER SENSITIVITY ADJUSTMENT (Refer to Figures 33 and 41)

1. Connect the V.T.V.M. to the test point TP801 (TP802) and test point TP803 (GROUND).
2. Insert the test tape (MTT-150, 400 Hz Recorded).
3. Set the Dolby N.R. switch (SW2B) and Fe-Cr switch (SW2-A) to the OFF position.
4. Place the unit in PLAYBACK mode.
5. Adjust the semi-variable resistor (VR801, VR802) so that the V.T.V.M. reads 580 mV.
6. At this time, adjust the semi-variable resistor (VR803, VR804) so that the LEVEL meter indicates "0 VU".

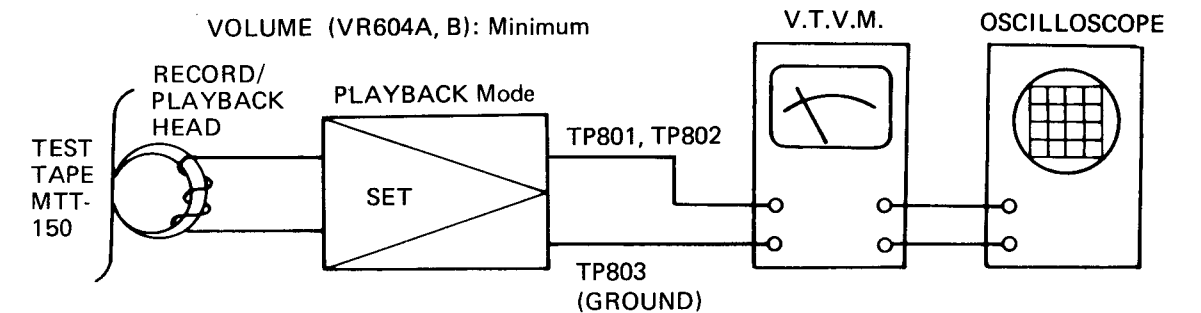


Figure 33

■ DOLBY NOISE REDUCTION CHECK (Refer to Figure 34)

1. Connect the V.T.V.M. to the test point TP801 (TP802) and test point TP803 (GROUND).
2. Insert the tape (non-recorded)
3. Set the function switch (SW1) to the AUX/MIC position and the Dolby N.R. switch (SW2-B) to the OFF position.
4. Connect the C.R. oscillator to the REC/PB socket (SO4) and apply signals (100 Hz, -35 dB) to the unit.
5. Place the unit in RECORD mode, and adjust the REC LEVEL control (VR601, VR602) so that the V.T.V.M. reads 32.6 mV.
6. Set the Dolby N.R. switch (SW2-B) to the ON position and apply signals (1 kHz) to the unit. If the indication of the V.T.V.M. is 43 ~ 85 mV at that time, this means that the Dolby Noise Reduction is normal.

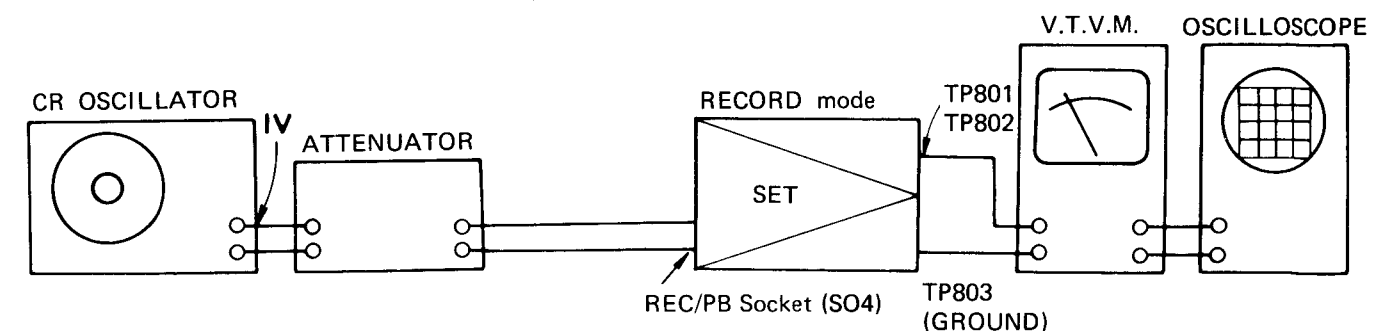


Figure 34

GENERAL ALIGNMENT INSTRUCTION

Alignment is an exacting procedure and should be undertaken only when necessary.
If alignment of AM and FM is required, either section may be done first.

Note : Use a non-metallic alignment tool.

REQUIRED EQUIPMENT:

- 1. Signal generator with a frequency range of 140 kHz to 18.5 MHz: AM
- 2. Signal generator with a frequency range of 87.4 MHz to 109 MHz: FM
- 3. Signal generator with a frequency output of 10.7 MHz ± 0.5 MHz: FM
- 4. Vacuum tube voltmeter (AC-VTVM)
- 5. Sweep signal generator with a sweep range of at least 500 kHz and center frequency of 10.7 MHz with at least a 10.7 MHz marker. (Ext. Marker may be used.)
- 6. Oscilloscope with a wide range amplifier of approximately 100 kHz.
- 7. Test loops, a coil of any size wire, one turn or more.
- 8. FM stereo signal generator.
- 9. Audio signal generator with a frequency of 20 Hz to 100 kHz.
- 10. Frequency counter.

The FM stereo section, however, should be done only if the FM monaural section is properly adjusted.

Notes: Allow the set at least five minutes to warm up before attempting alignment. During alignment keep the signal generator output at the lowest level that will maintain a usable output from the set, except for FM stereo signal generator. Take much care, lest the grounding of FM sweep signal generator input should make multipaths which made FM IF alignment incorrect. To avoid this the grounding lead may be connected through 0.01 – 0.04 MFD capacitor to the tuner chassis when sweep generator is connected to the tuner section.
Generator modulation (AM) 30%, 400Hz
Generator modulation (FM) 40kHz, 400Hz
Generator modulation CH.L. or CH.R.
(FM stereo) 40kHz, 1000Hz Mod.

THE INSTRUCTION OF FREQUENCY ADJUSTMENT

In order to comply with FTZ rule Nr. 358/1970, please fix the low end of dial frequency (87.5 MHz) and the high end of dial frequency (107 MHz) on FM band, by adjusting

fL variable resistor (VR103) and fH variable resistor (VR104), respectively, as illustrated in Figure 41 (Page 23).

ALIGNMENT CHART

AM IF ALIGNMENT (Refer to Figures 35 and 41)

STEP	BAND	TEST STAGE	SIGNAL GENERATOR		DIAL POINTER SETTING	SCOPE CONNECTION	ADJUSTMENT	REMARKS
			CONNECTION	FREQUENCY				
1	MW	IF	Thru 0.01μF to IC103 (1 Pin) as small as possible	455kHz (Sweep)	High end of Dial	Oscilloscope connected to TP1 and ground.	Adjust T103 to obtain maximum response, at 455 kHz. Next, adjust T104 to obtain minimum response at 455kHz	Repeat 2 or 3 times.

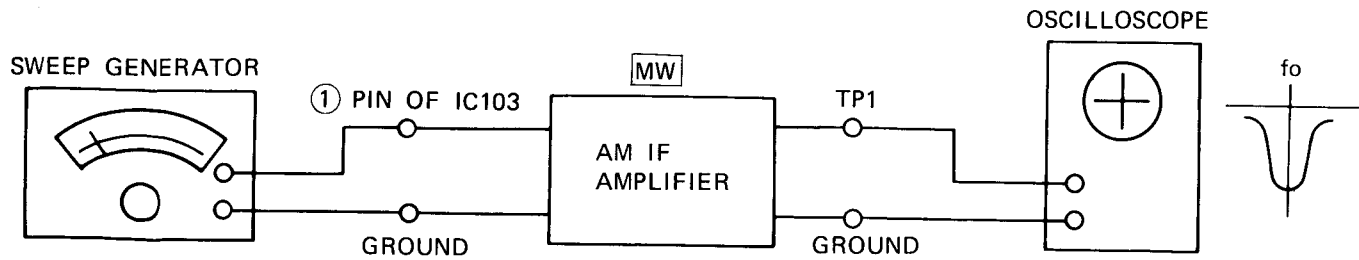


Figure 35 AM IF ALIGNMENT EQUIPMENT CONNECTIONS

AM RF ALIGNMENT (Refer to Figures 36 and 41)

STEP	BAND	TEST STAGE	SIGNAL GENERATOR		DIAL POINTER SETTING	METER CONNECTION	ADJUSTMENT	REMARKS
			CONNECTION	FREQUENCY				
1	LW	Band Coverage	Radiated Signal as small as possible	145kHz Modulated	Low end of Dial	VTVM connected to TP1 and ground	Oscillation coil L306	Adjust for maximum output Repeat 2 or 3 times.
2	LW		Radiated Signal as small as possible	385kHz Modulated	High end of Dial	Same as above	Oscillation Trimmer TC303B	Same as above
3	LW	Tracking	Radiated Signal as small as possible	170kHz Modulated	170kHz	Same as above	Antenna coil L109 (Bobbin of LW)	Same as above
4	LW		Radiated Signal as small as possible	340kHz Modulated	340kHz	Same as above	Antenna Trimmer TC306	Same as above
5	MW	Band Coverage	Radiated Signal as small as possible	515kHz Modulated	Low end of Dial	Same as above	Oscillation coil L305	Same as above
6	MW		Radiated Signal as small as possible	1650kHz Modulated	High end of Dial	Same as above	Oscillation Trimmer TC303A	Same as above
7	MW	Tracking	Radiated Signal as small as possible	600kHz Modulated	600kHz	Same as above	Antenna coil L109 (Bobbin of MW)	Same as above
8	MW		Radiated Signal as small as possible	1400kHz Modulated	1400kHz	Same as above	Antenna Trimmer TC305	Same as above
9	SW	Band Coverage	Through IEC dummy to AM EXT ANT. as small as possible	5.7MHz Modulated	Low end of Dial	Same as above	Oscillation coil L304	Same as above
10	SW		Same as above	18.3MHz Modulated	High end of Dial	Same as above	Oscillation Trimmer TC301	Same as above
11	SW	Tracking	Same as above	6.5MHz Modulated	6.5MHz	Same as above	Antenna coil L303	Same as above
12	SW		Same as above	16MHz Modulated	16MHz	Same as above	Antenna Trimmer TC302	Same as above

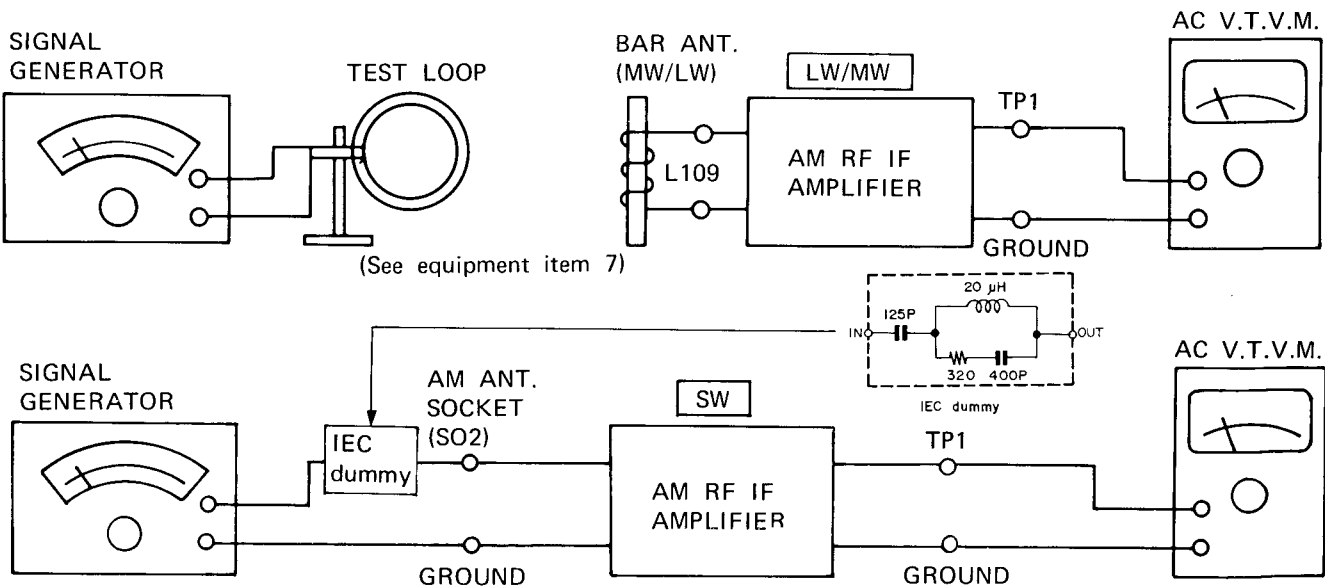
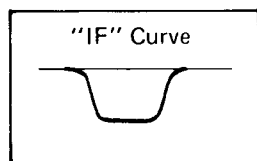
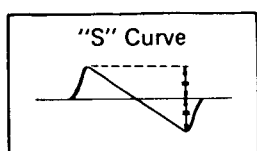
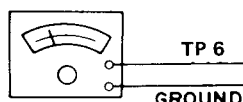


Figure 36 AM RF ALIGNMENT EQUIPMENT CONNECTIONS

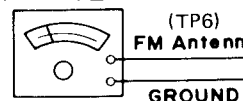
FM IF ALIGNMENT (Refer to Figures 37 and 41)

AFC/MUTING switch (SW1-I, J) : OFF

STEP	BAND	TEST STAGE	SIGNAL GENERATOR		DIAL POINTER SETTING	METER SCOPE CONNECTION	ADJUSTMENT	REMARKS
			CONNECTION	FREQUENCY				
1	FM	IF (See NOTE A)	Through 1.5pF to TP6 and ground.	10.7MHz ± 500 kHz as small as possible	High end of Dial	Oscilloscope connected to test point TP11 and TP2 (ground).	T1	Adjust "IF" curve at maximum as shown in the figure 37.
2	FM		Same as above	No signal	Same as above	V.T.V.M. connected to test point TP7 (+) and TP8 (-)	T101	Adjust the 0V to lead of V.T.V.M
3	FM		Same as above	Same as step 1	Same as above	Oscilloscope connected to test point TP9	T102	Adjust for best "S" curve


 SIGNAL OR SWEEP GENERATOR
10.7MHz ± 500 kHz


OSCILLOSCOPE

 SIGNAL OR SWEEP GENERATOR
10.7MHz ± 500 kHz


DC-VTVM

Figure 37 FM ALIGNMENT EQUIPMENT CONNECTIONS
FM RF ALIGNMENT (Refer to Figures 37 and 41)

AFC/MUTING switch (SW1-I, J) : OFF, Touch key : MANUAL

STEP	BAND	TEST STAGE	SIGNAL GENERATOR		DIAL POINTER SETTING	METER CONNECTION	ADJUSTMENT	REMARKS
			CONNECTION	FREQUENCY				
1	FM	Band coverage	FM Antenna	87 MHz as small as possible (Modulated)	Low end of Dial	DC-V.T.V.M. connected to 8 pin of FM FRONT END	VR103	Adjust the 2.87V to 8 pin of FM Tuner Front end.
2			Same as above	109 MHz as small as possible (Modulated)	High end of Dial	Same as above	VR104	Adjust the 24.24V to 8 pin of FM Tuner Front end. Repeat steps 1 and 2 until no further improvement can be made
* 3			Same as above	87 MHz as small as possible (Modulated)	Low end of Dial	V.T.V.M. Connection to SO5 or SO6	Oscillation coil L254	Adjust for maximum output
* 4			Same as above	109MHz as small as possible (Modulated)	High end of Dial	Same as above	Oscillation trimmer TC253	Same as above. Repeat steps 3 and 4 until no further improvement can be made
* 5	FM	Tracking	Same as above	90MHz as small as possible (Modulated)	90MHz	Same as above	Antenna coil L251 and RF coil L252	Adjust for maximum output
* 6			Same as above	106MHz as small as possible (Modulated)	106MHz	Same as above	Antenna trimmer TC251 and RF trimmer TC252	Same as above 5~6 Repeat 2 or 3 Times

(*) As for FM high-frequency range (front-end section), since it has been already adjusted, do not rotate the coils and trimmers unless the adjustment becomes necessary — readjust the FM-high frequency only when it suffers a considerable disalignment.

FM MPX ALIGNMENT (Refer to Figures 38 and 41)

STEP	BAND	TEST STAGE	STEREO SIGNAL GENERATOR		TUNING FREQUENCY	METER CONNECTION	ADJUSTMENT	REMARKS
			CONNECTION	MOD. FREQUENCY				
1	FM	V.C.O.	FM-ANT. Terminal	98MHz Modulated	98MHz	V.T.V.M. connected to TP10 and TP2 (ground)	VR101	Adjust for $19 \pm 0.1\text{kHz}$
2	FM	STEREO SEPARATION	FM-ANT. Terminal	98MHz stereo Mod. (1000Hz) L-ch only	98MHz	V.T.V.M. connected to L-ch SP. socket (SO5)	Volume control (VR604-A, B)	Adjust the V.T.V.M. reads 1.4 V (0 dB)
3			Same as above	Same as above	Same as above	V.T.V.M. connected to R-ch SP. socket (SO6)	VR102	Adjust for minimum output

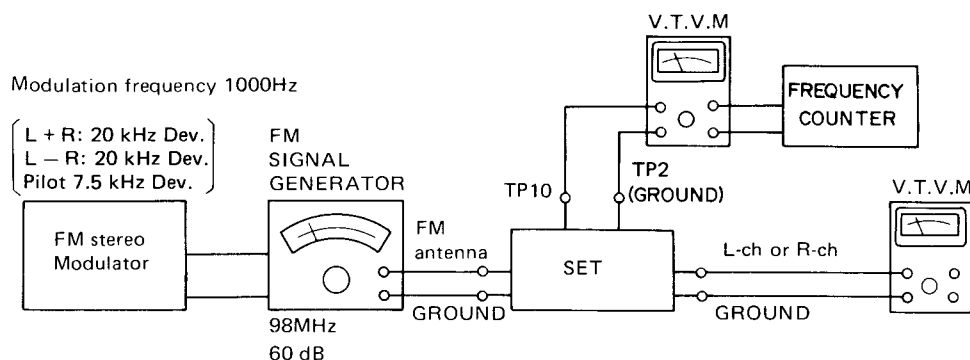


Figure 38 FM STEREO ALIGNMENT EQUIPMENT CONNECTIONS

FM PRESET METER ADJUSTMENT

(Refer to Figures 39 and 41)

1. Set the function switch (SW1) to "U-FM" position.
2. Connect the FM signal generator to the FM antenna terminal of the set. (The FM signal generator is kept to "104 MHz".)
3. Turn the semi-variable resistor VR106 fully counterclockwise.
4. Rotate the U2 preset knob of the set to tune in 104 MHz signal.
5. Adjust the semi-variable resistor VR105 so that the FM preset meter ME3 will indicate "104 MHz".
6. Have the FM signal generator produce 92 MHz signal.
7. Rotate the U1 preset knob of the set to tune in 92 MHz signal.
8. Make sure the FM pre-set meter ME3 is indicating "92 MHz".

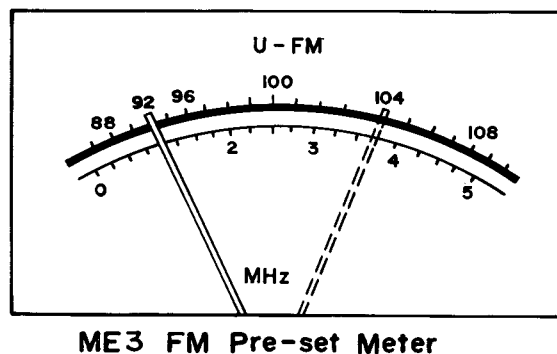


Figure 39

NOTE A

Five kinds of ceramic filter (CF1, CF2) are available for this set. The difference of central frequency from each other can be known by the color indication. The table below shows such a difference of IF and S curve, depending upon the color indications of the ceramic filter (CF1, CF2).

Central Frequency	D	Black	$10.64\text{MHz} \pm 30\text{kHz}$
	B	Blue	$10.67\text{MHz} \pm 30\text{kHz}$
	A	Red	$10.70\text{MHz} \pm 30\text{kHz}$
	C	Orange	$10.73\text{MHz} \pm 30\text{kHz}$
	E	White	$10.76\text{MHz} \pm 30\text{kHz}$

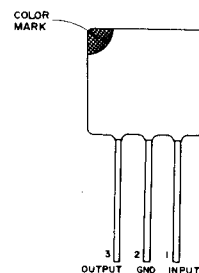


Figure 40

TUNER SECTION

- AM IF ALIGNMENT
 - T103 : AM IFT (455 kHz)
 - T104 : IF Trap Filter
- AM RF ALIGNMENT
 - LW
 - L109 : Antenna Coil (Bobbin of LW)
 - L306 : Oscillation Coil
 - TC303B : Oscillation Trimmer
 - TC306 : Antenna Trimmer
 - MW
 - L109 : Antenna Coil (Bobbin of MW)
 - L305 : Oscillation Coil
 - TC303A : Oscillation Trimmer
 - TC305 : Antenna Trimmer
 - SW
 - L303 : Antenna Coil
 - L304 : Oscillation Coil
 - TC301 : Oscillation Trimmer
 - TC302 : Antenna Trimmer
- FM IF ALIGNMENT
 - T101 : Quadrature
 - T102 : Quadrature
 - T251 : IFT
- FM RF ALIGNMENT
 - * L251 : Antenna Coil
 - * L252 : RF Coil
 - * L254 : Oscillation Coil
 - * TC251 : Antenna Trimmer
 - * TC252 : RF Trimmer
 - * TC253 : Oscillation Trimmer
 - VR103 : Frequency Low Adjust
 - VR104 : Frequency High Adjust
- FM MPX ALIGNMENT
 - VR101 : VCO Adjust
 - VR102 : Separation Adjust
- FM PRESET METER ADJUSTMENT
 - VR105 : U-FM Meter Adjust
 - VR106 : U-FM Meter Adjust

TAPE DECK SECTION

- RECORD AMPLIFIER BIAS OSCILLATOR ADJUSTMENT
 - VR811 : Bias Adjust (L-ch)
 - VR812 : Bias Adjust (R-ch)
- RECORD AND PLAYBACK SENSITIVITY ADJUSTMENT
 - VR805 : Overall Sensitivity Adjust, Fe-Cr Tape (L-ch)
 - VR806 : Overall Sensitivity Adjust, Fe-Cr Tape (R-ch)
 - VR807 : Overall Sensitivity Adjust, CrO₂ Tape (L-ch)
 - VR808 : Overall Sensitivity Adjust, CrO₂ Tape (R-ch)
- PLAYBACK/LEVEL METER SENSITIVITY ADJUSTMENT
 - VR801 : Playback Sensitivity Adjust (L-ch)
 - VR802 : Playback Sensitivity Adjust (R-ch)
 - VR803 : Level Meter Sensitivity Adjust (L-ch)
 - VR804 : Level Meter Sensitivity Adjust (R-ch)
- VR809 : Overall Sensitivity Adjust, Normal Tape (L-ch)
- VR810 : Overall Sensitivity Adjust, Normal Tape (R-ch)

ME1 (L-ch Level)
ME2 (R-ch Level/Tuning)
ME3 (FM Pre-set)

VR405 (U5)
VR404 (U4)
VR403 (U3)
VR402 (U2)
VR401 (U1)

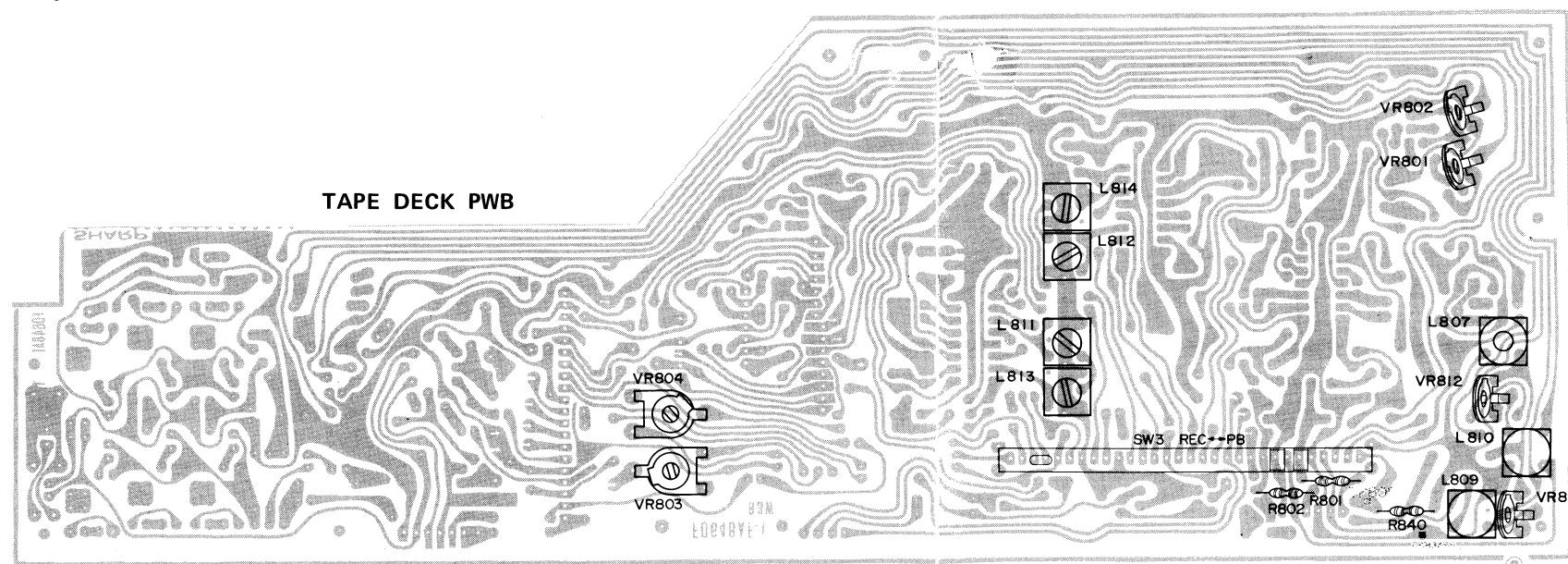
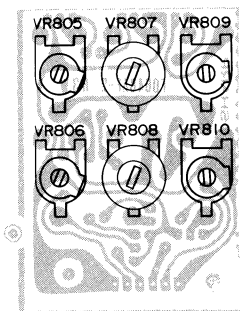
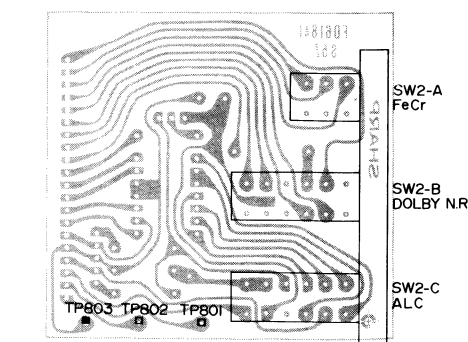
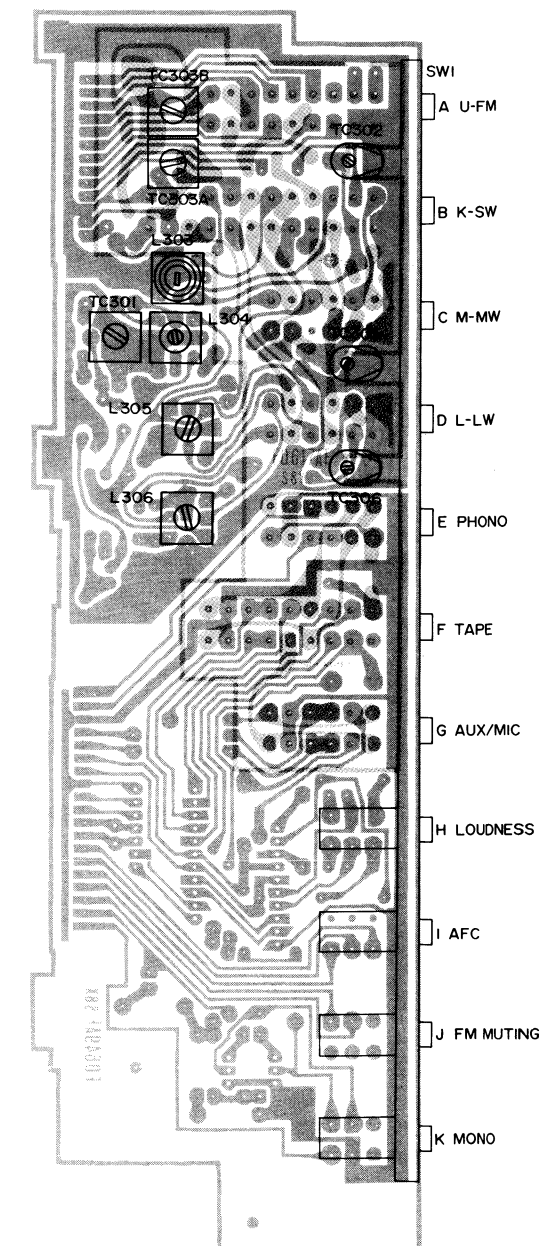
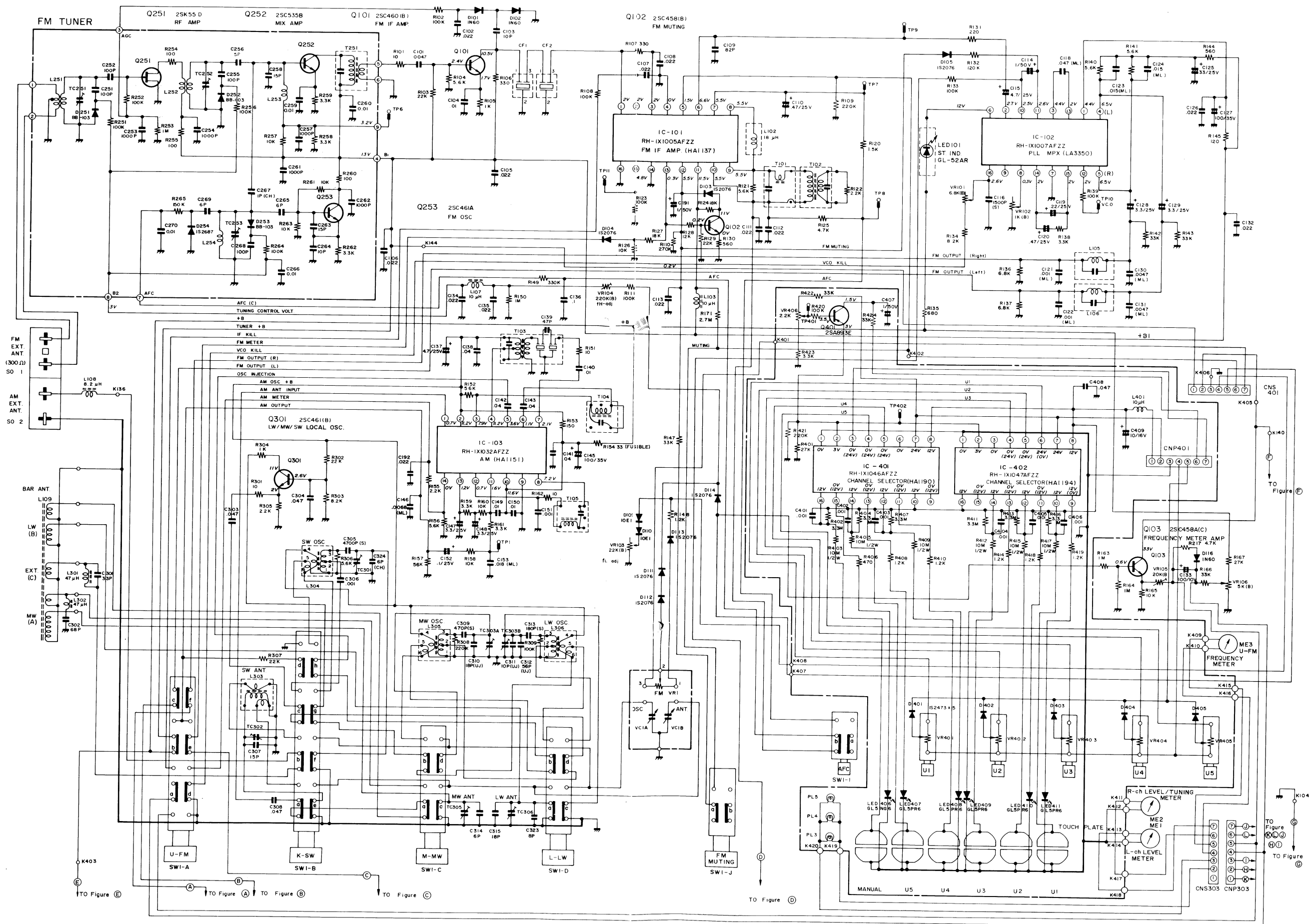


Figure 41 ALIGNMENT POINT (TUNER/TAPE DECK)

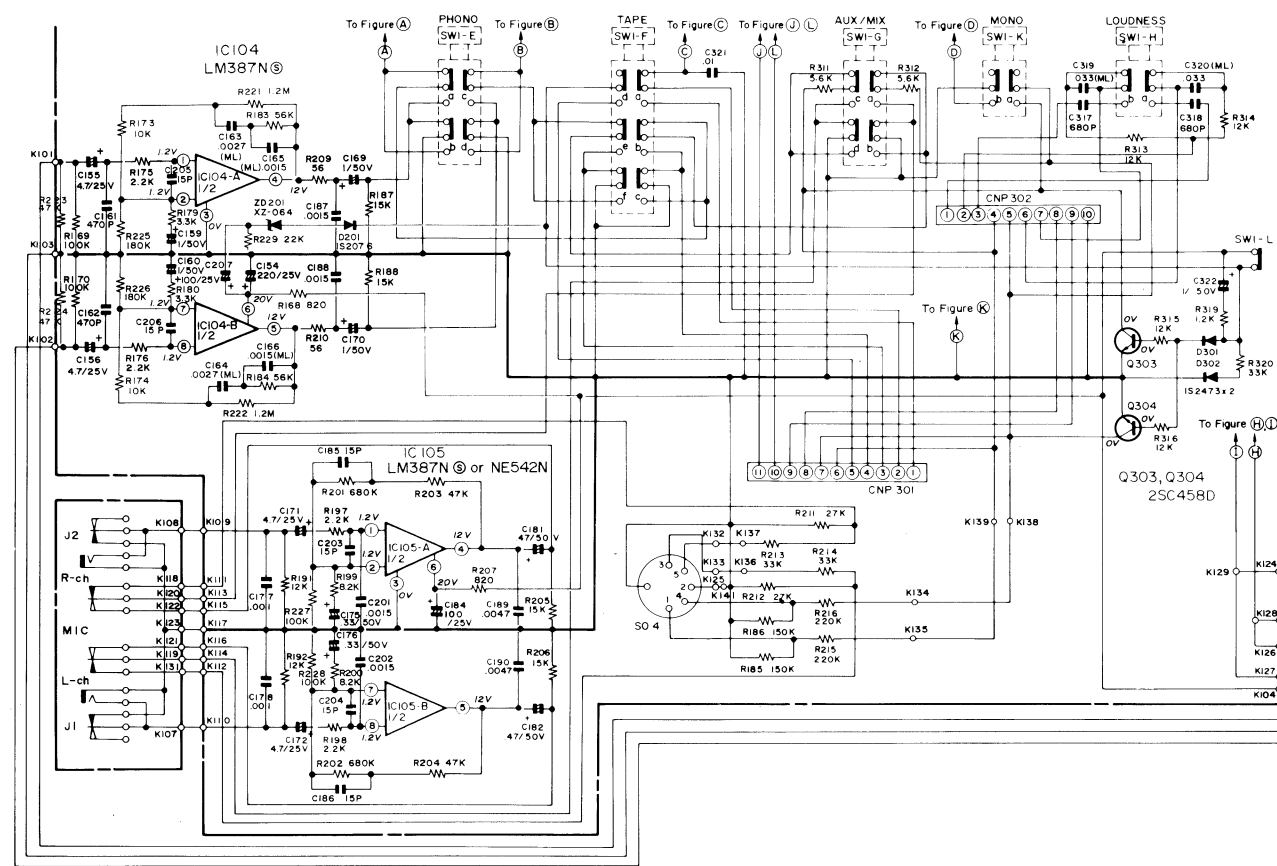
SWITCH PWB



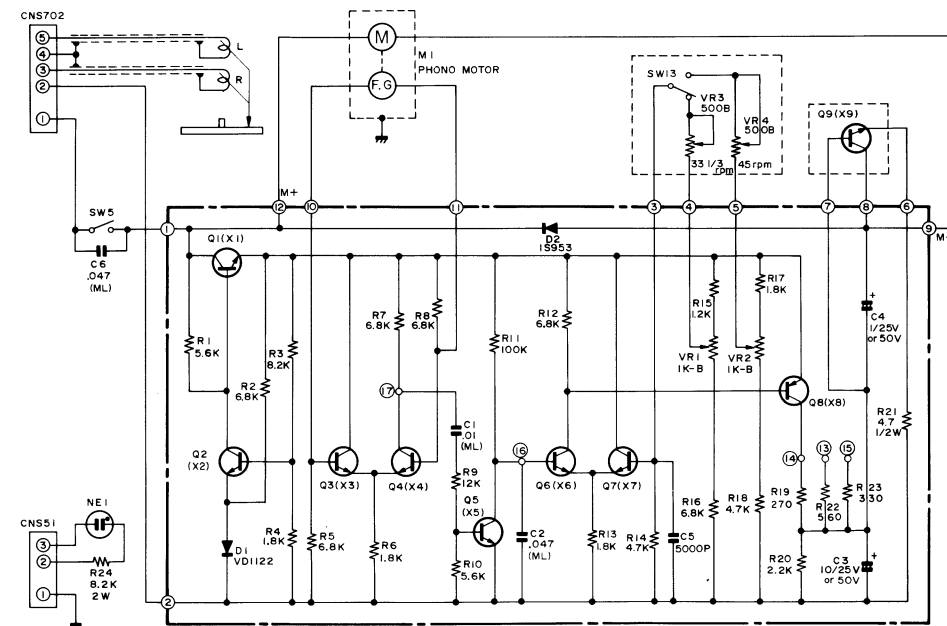


(Specifications or wiring diagrams of this model are subject to change for the improvement without prior notice.)

Figure 42 SCHEMATIC DIAGRAM (TUNER SECTION)



PLAYER SECTION



(Specifications or wiring diagrams of this model are subject to change for the improvement without prior notice.)

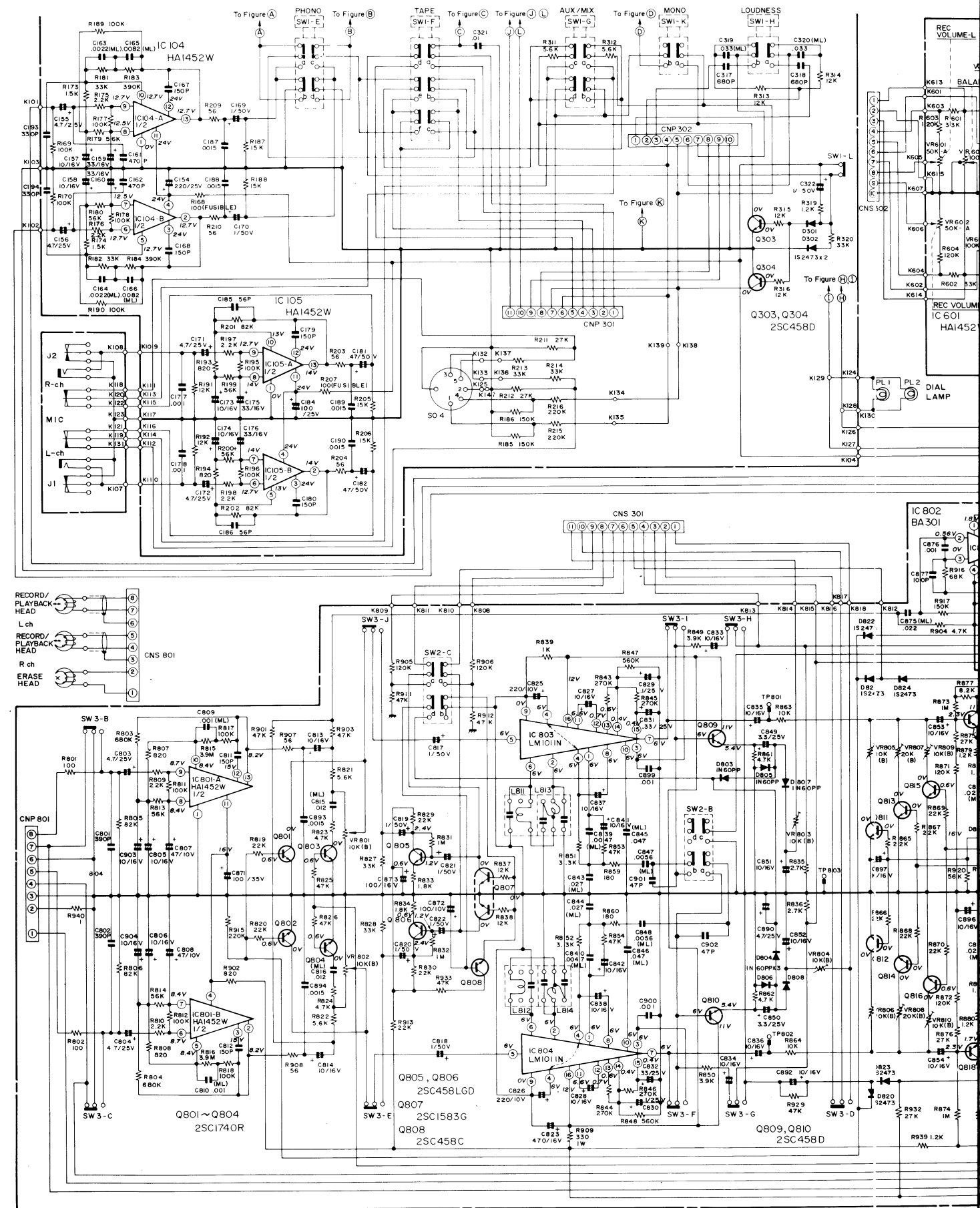


Figure 43 SCHEMATIC DIAGRAM (PLAYER/AUDIO SECTION)

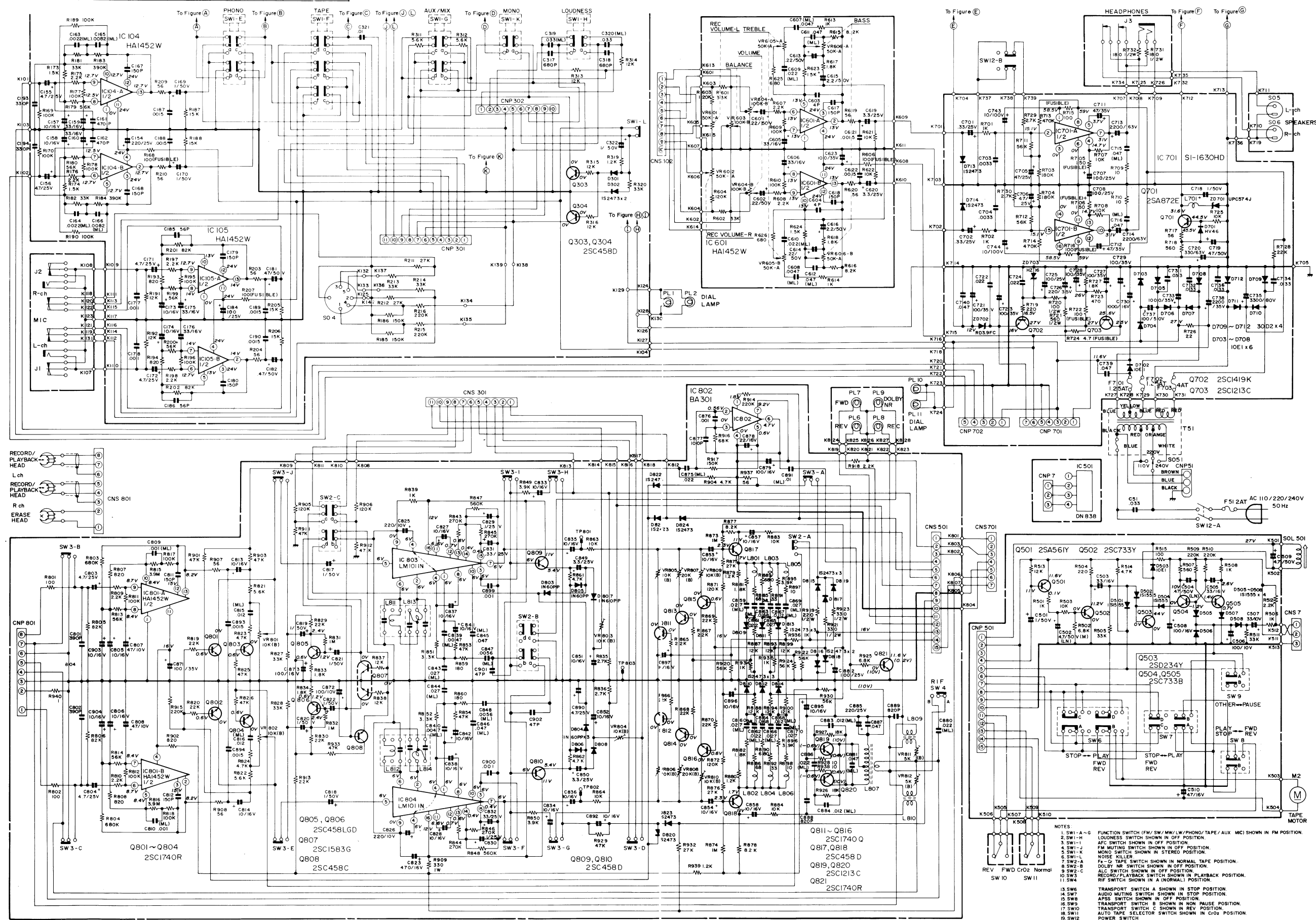
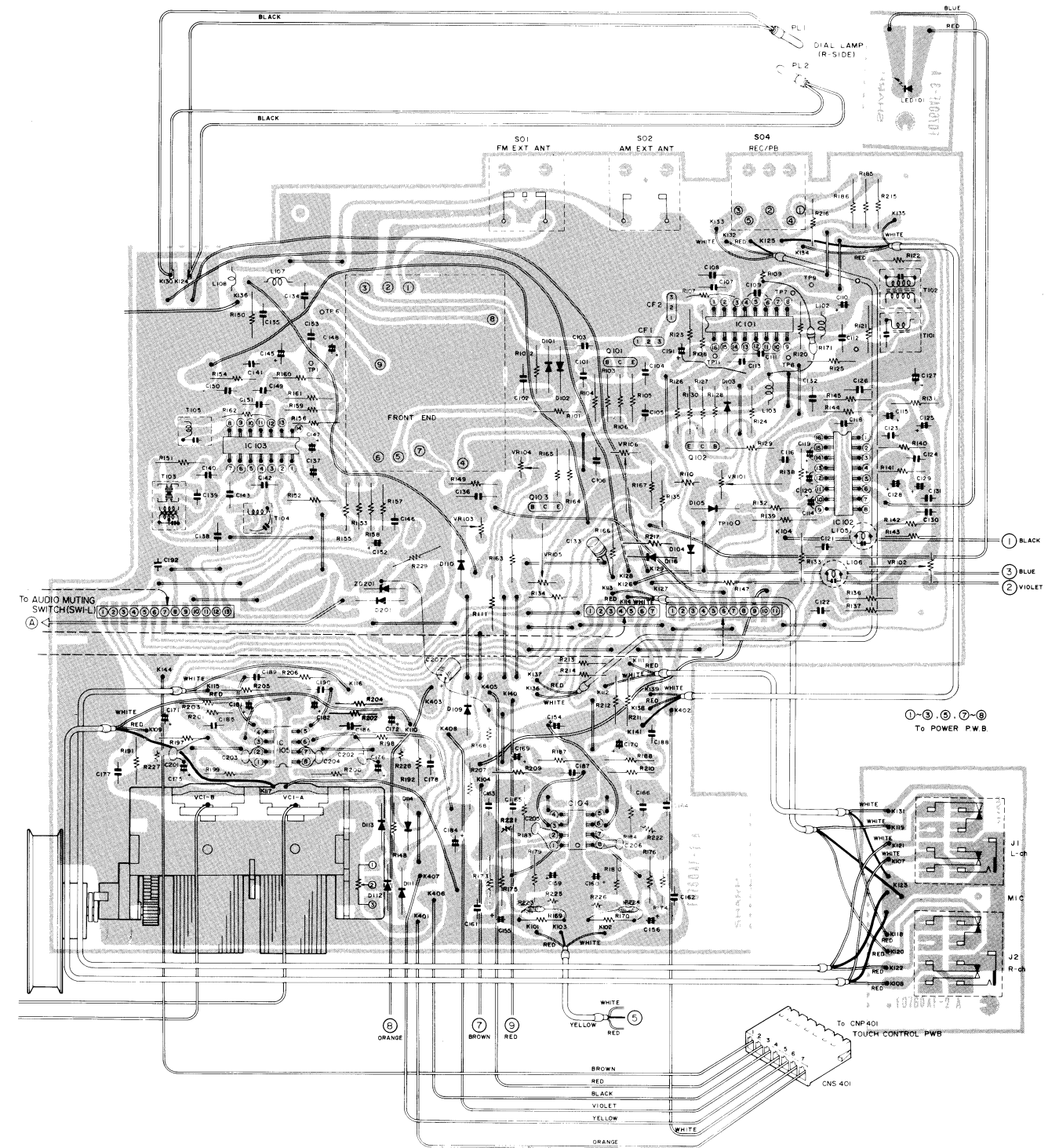
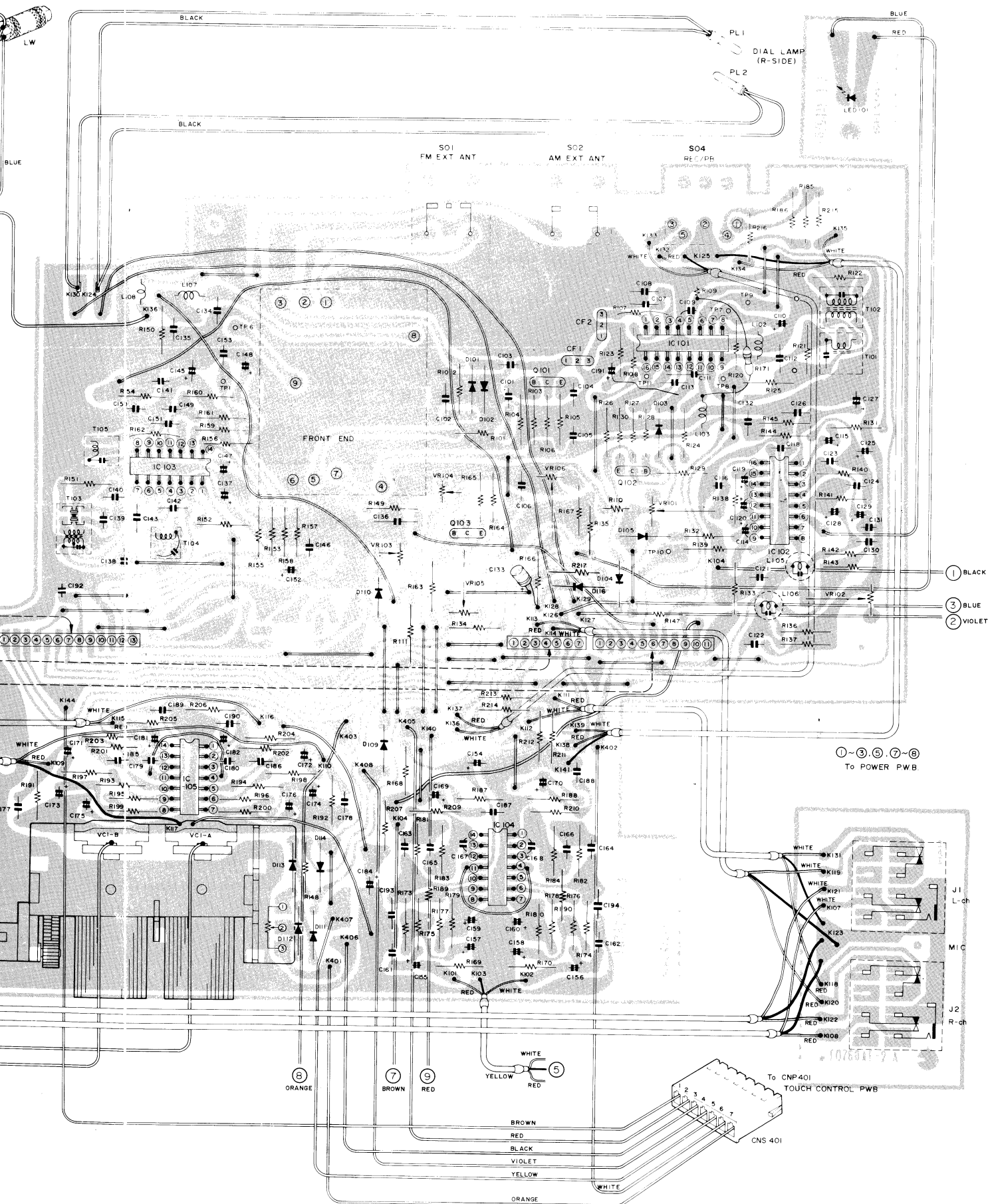
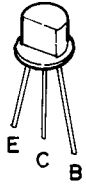


Figure 43 SCHEMATIC DIAGRAM (PLAYER/AUDIO SECTION)

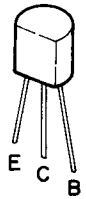




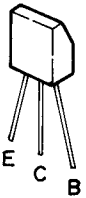
TRANSISTORS



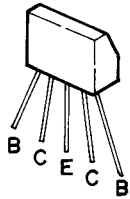
- 2SA561 (Y)
- 2SC733 (B) (Y)



- 2SA641
- 872 (E)
- 893 (E)
- 2SC1740 (Q) (R)
- 458 (B) (C) (D) (AC) (LGD)
- 945

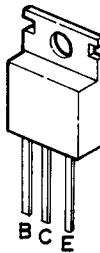


- 2SC1213 (C)
- 460 (B)
- 460 (B)



- 2SC1583 (G)

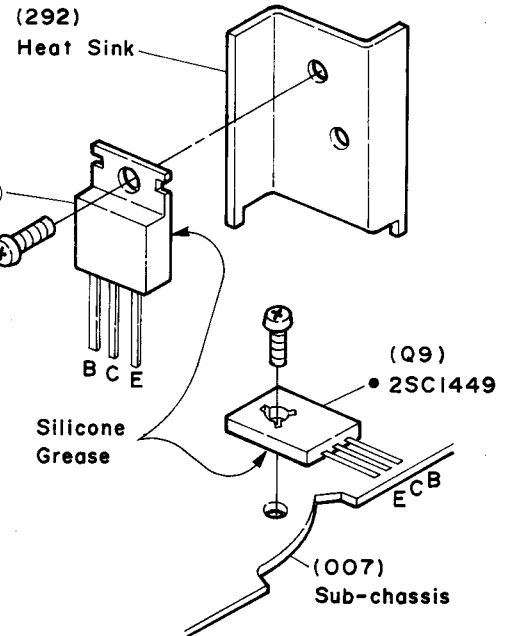
B : Base
C : Collector
E : Emitter



- 2SD234 (Y)

NOTE:

When replacing the transistor (Q9 and Q702), be sure to apply silicone grease on the surface of transistor which is in contact with the heat sink, evenly and as sparingly as possible.



DIODES AND LED

- HV46



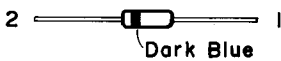
- IN60



- IS2473



- HZ16



- IS1555



- IOE1



- RD3.9FC



- IS2076



- 30D2



- μPC574J



- GL52AR (Red)



- GL5NG6 (Green)

- GL5PR6 (Red)

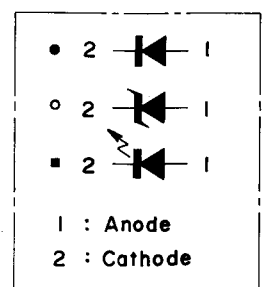


Figure 45 TYPES OF TRANSISTOR, DIODE AND LED

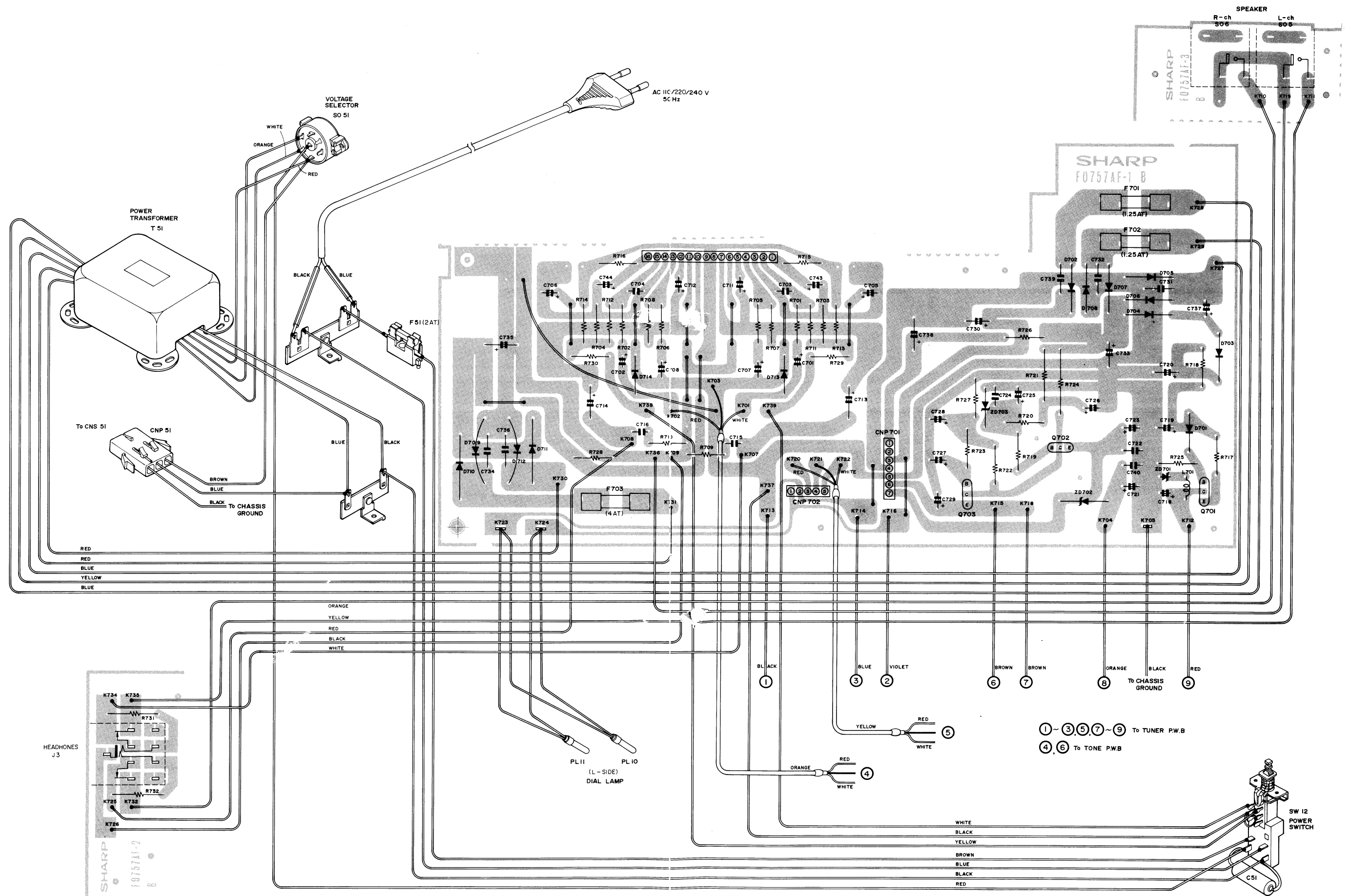


Figure 47 WIRING SIDE OF P.W. BOARD (POWER/HEADPHONES)

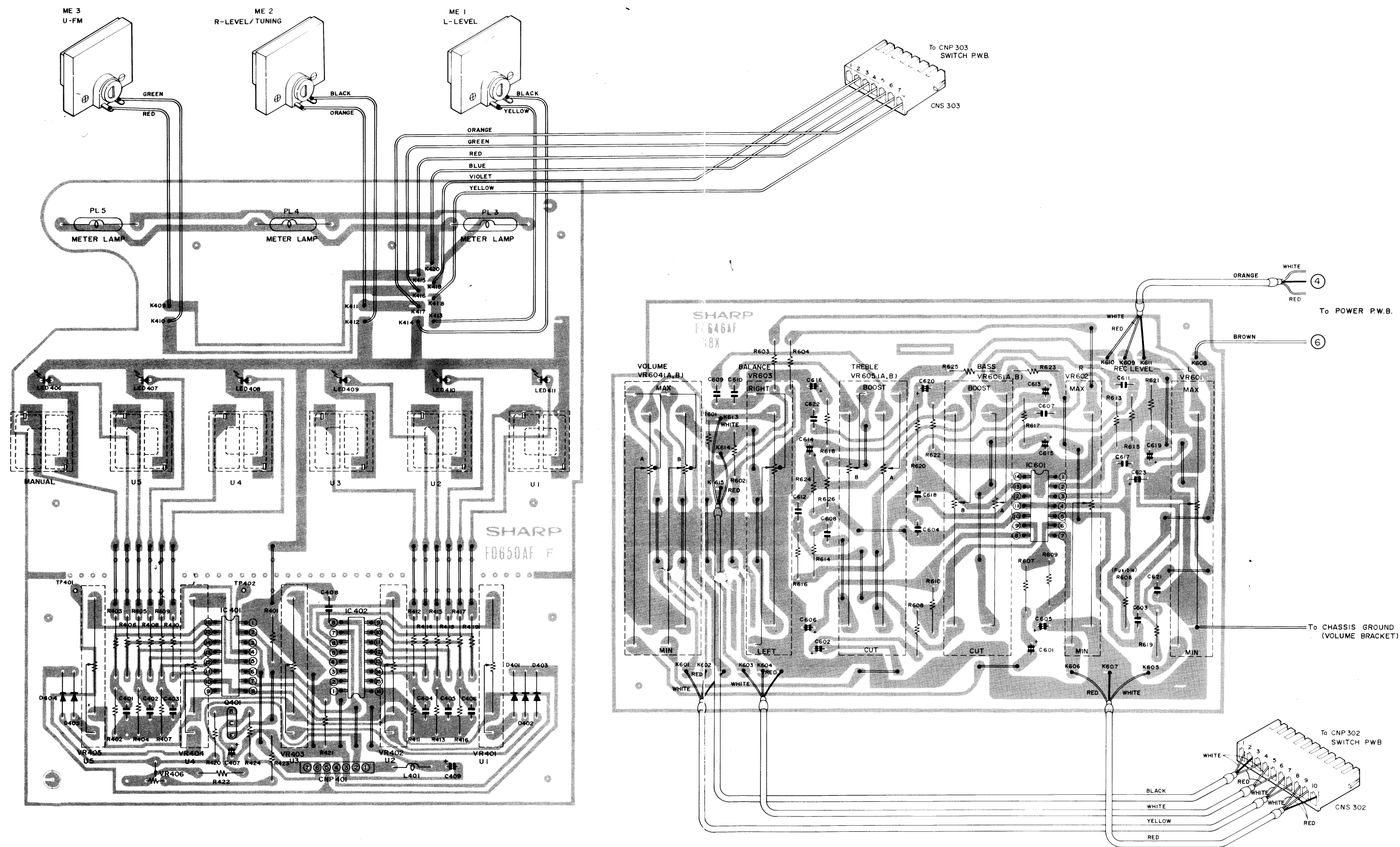


Figure 48 WIRING SIDE OF P.W. BOARD (TOUCH CONTROL/TONE)

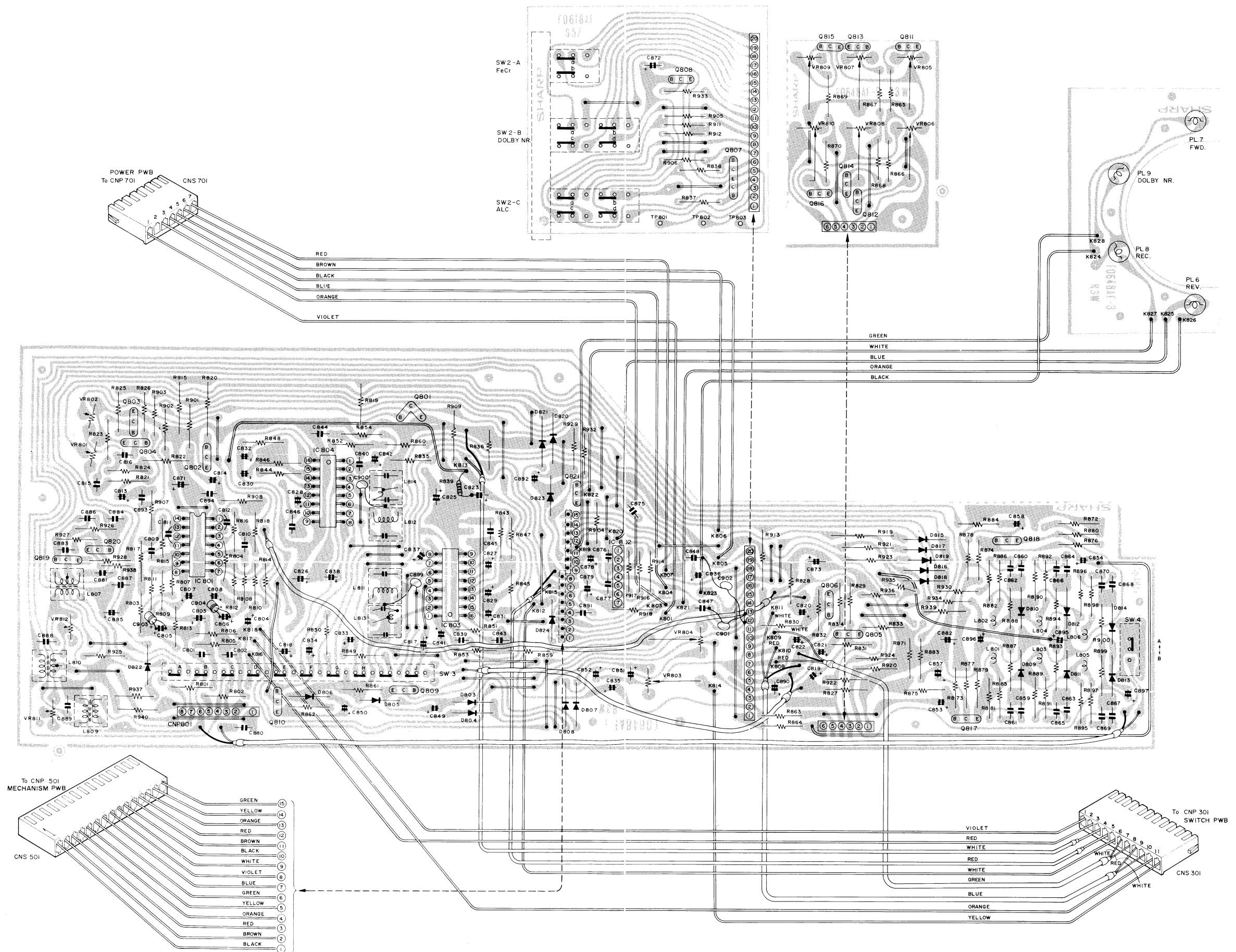


Figure 49 WIRING SIDE OF P.W. BOARD (TAPE DECK)

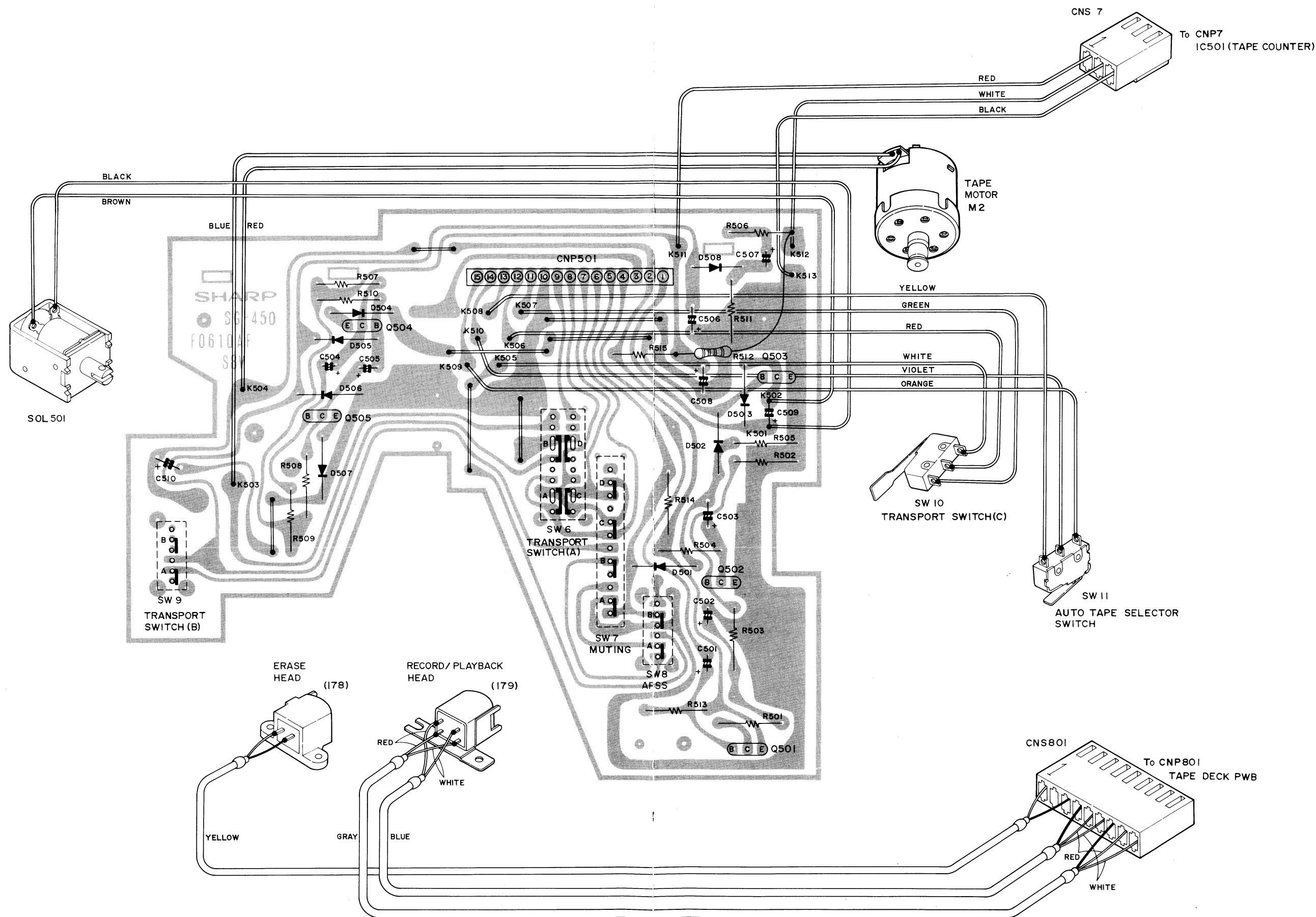


Figure 50 WIRING SIDE OF P.W. BOARD (TAPE DECK MECHANISM)

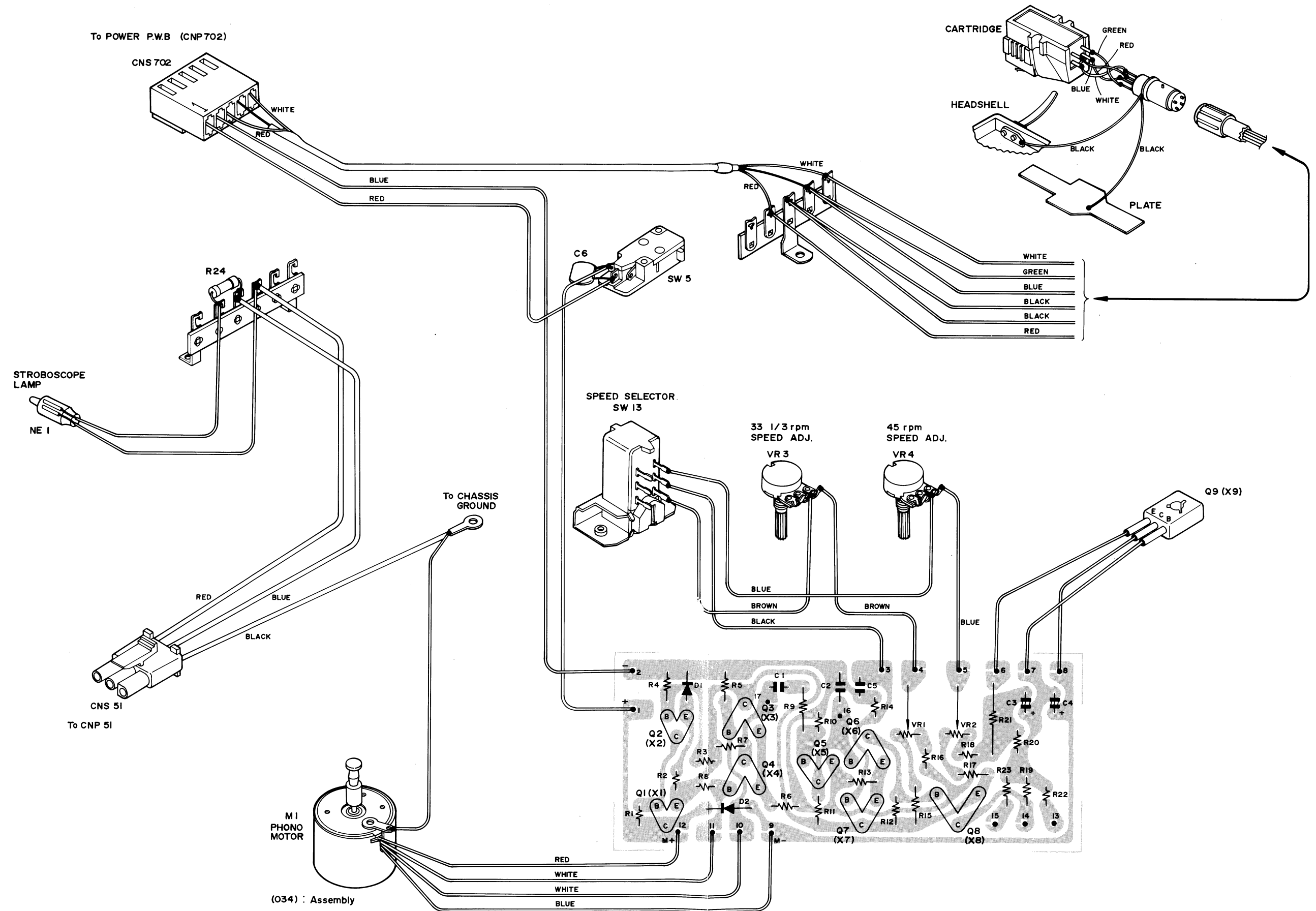


Figure 51 WIRING SIDE OF P.W. BOARD (PLAYER)

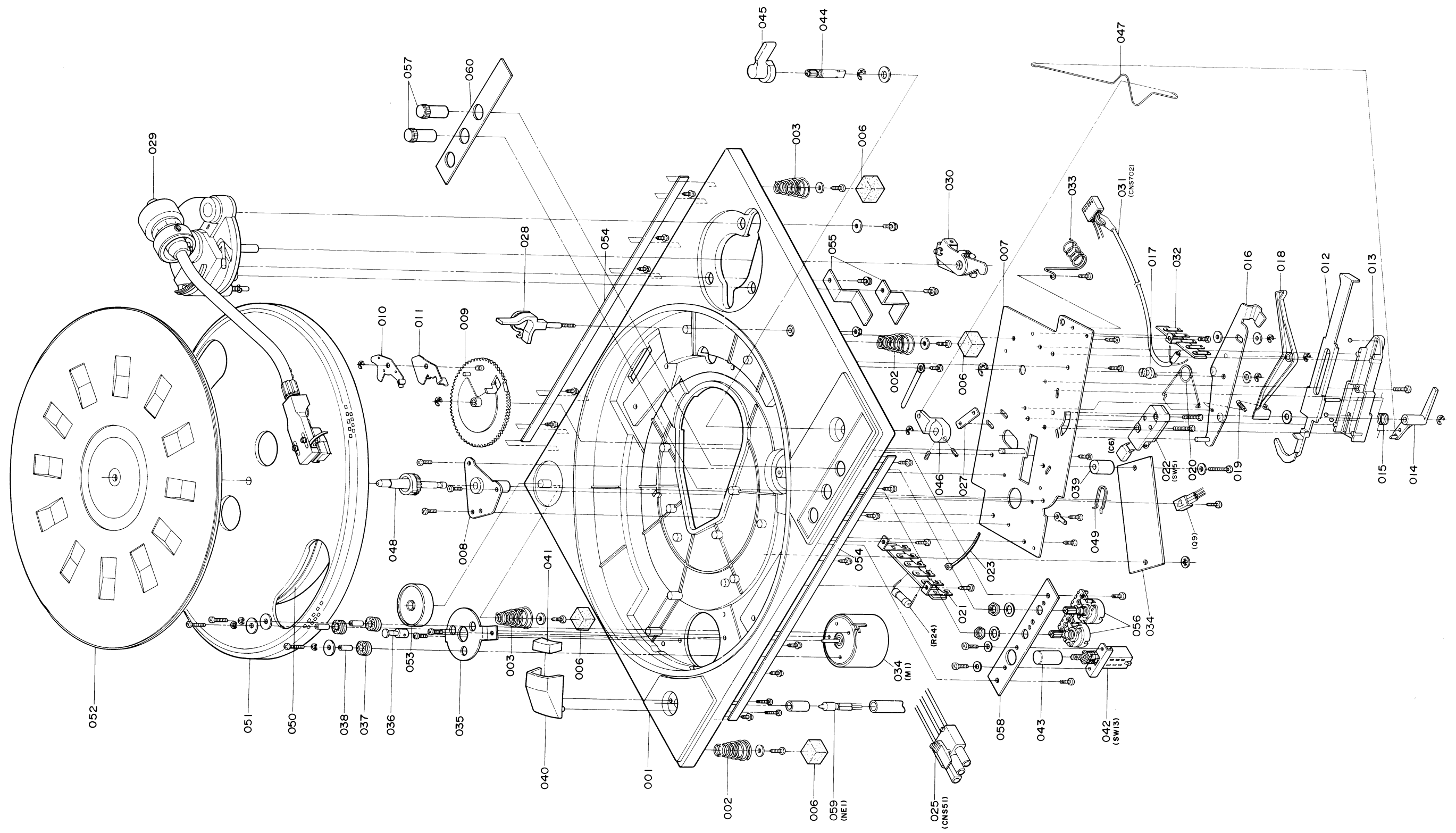


Figure 52 RECORD PLAYER EXPLODED VIEW

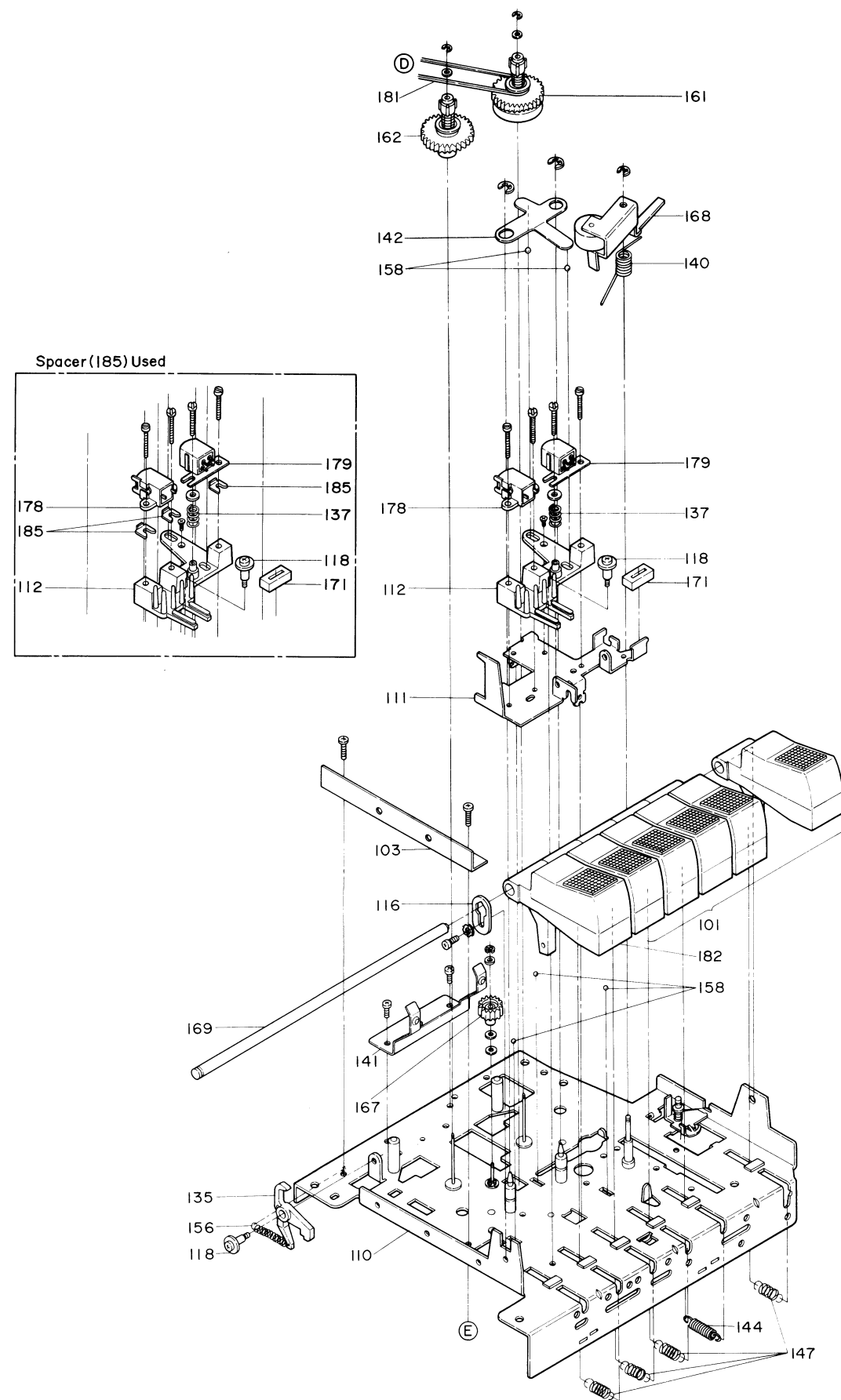


Figure 53 TAPE DECK EXPLODED TOP VIEW

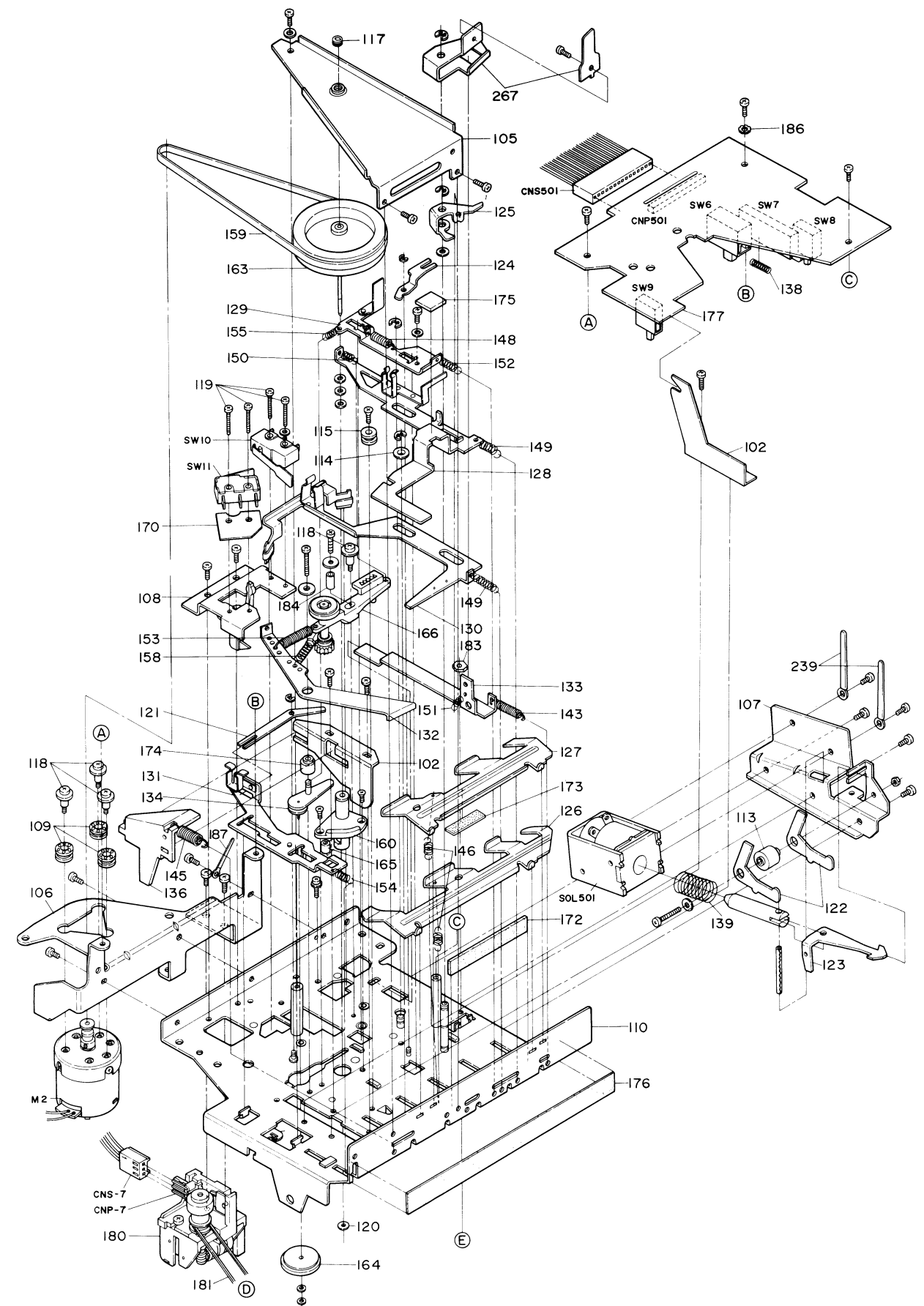


Figure 54 TAPE DECK EXPLODED BOTTOM VIEW

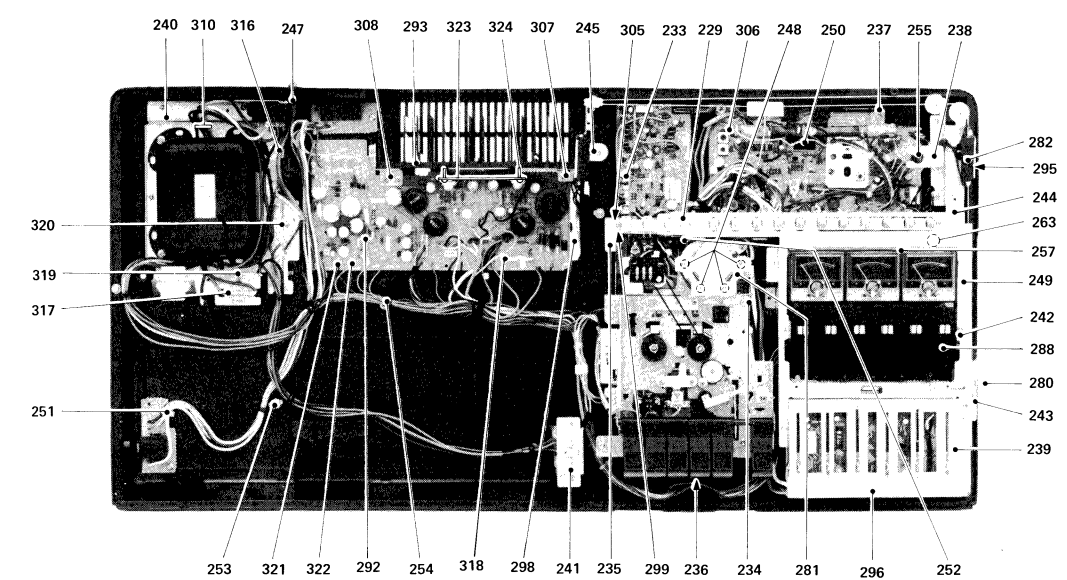
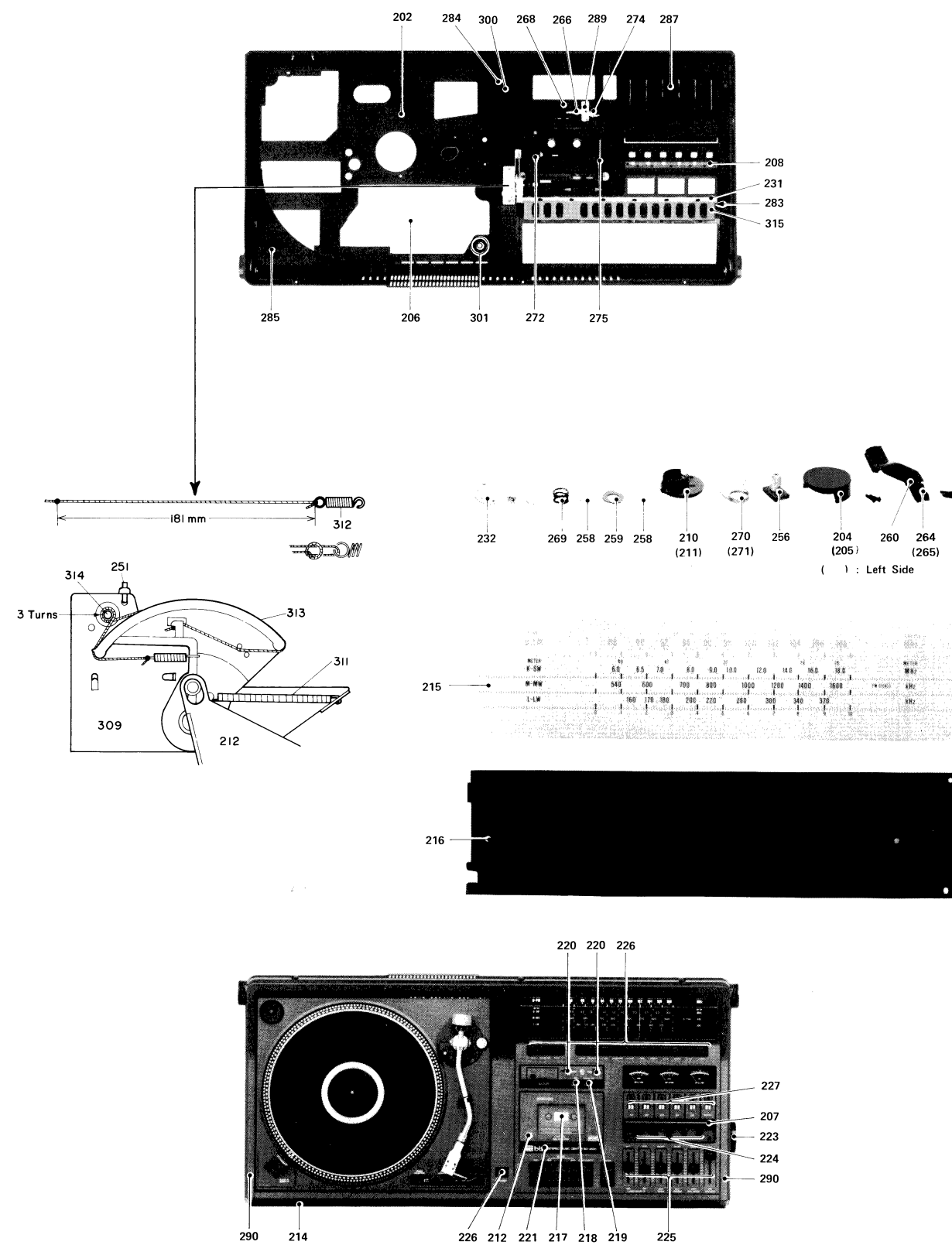


Figure 55 MISCELLANEOUS PARTS GUIDE

REPLACEMENT PARTS LIST

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION

● (IC104, IC105) : Refer to Page No. 62

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
IC (Integrated Circuit)				Q502	VS2SC733-Y/-1	Level Comparator (2SC733 Y)	AD
				Q503	VS2SD234-Y/-3	Solenoid Switching (2SD234 Y)	AG
IC101	RH-IX1005AFZZ	FM IF Amp. and Detector (Quadrature) (HA1137)	AT	Q504, Q505	VS2SC733-B/-1	Multivibrator for Auto Stop (2SC733 B)	AD
IC102	RH-IX1007AFZZ	PLL MPX. Demodulator (LA3350)	AQ	Q701	VS2SA872-E/-1	Voltage Regulator (2SA872 E)	AE
IC103	RH-IX1032AFZZ	AM CONV./IF/DET. (HA1151)	AK	Q702	VS2SC1419-K1F	Voltage Regulator (2SC1419 K)	AG
IC104 (A, B)	RH-IX0427AGZZ	Phono Equalizer Amp. (HA1452W)	AP	Q703	VS2SC1213-C-3	Ripple Filter (2SC1213 C)	AD
IC105 (A, B)	RH-IX0427AGZZ	Mic. Pre Amp. (HA1452W)	AP	Q801, Q802	VS2SC1740R/-1	APSS Muting (2SC1740 R)	AC
IC401	RH-IX1046AFZZ	Channel Selector (HA1190)	AS	Q803, Q804	VS2SC1740R/-1	Switching, Playback Equalizer (2SC1740 R)	AC
IC402	RH-IX1047AFZZ	Channel Selector (HA1194)	AS	Q805, Q806	VS2SC458LGD-1	Record Pre-Amp. (2SC458 LGD)	AD
IC501	RH-IX1075AFZZ	Full Auto Stop Senser (DN838)	AL	Q807	VS2SC1583G-1F	ALC (2SC1583 G)	AF
IC601 (A, B)	RH-IX0427AGZZ	Tone Control Amp. (HA1452W)	AP	Q808	VS2SC458-C/-1	ALC Amp. (2SC458 C)	AC
IC701 (A, B)	VHISI1630HD-1	Power Amp. (SI-1630HD)	**	Q809, Q810	VS2SC458-D/-1	Meter Drive Amp. (2SC458 D)	AC
IC801 (A, B)	RH-IX0427AGZZ	Playback Equalizer Amp. (HA1452W)	AP	Q811, Q812, Q813, Q814, Q815, Q816	VS2SC1740Q/-1	Switching, Record Equalizer (2SC1740 Q)	AC
IC802	RH-IX0416AGZZ	APSS Limiting Amp. (BA301)	AH	Q817, Q818	VS2SC458-D/-1	Record Equalizer Amp. (2SC458 D)	AC
IC803, IC804	VHILM1011N/-1	Dolby NR Processor (LM1011N)	**	Q819, Q820	VS2SC1213-C-3	Bias Oscillator (2SC1213 C) (Matched Pair)	AD
TRANSISTORS				Q821	VS2SC1740R/-1	Switching Record Indicator (2SC1740 R)	AC
Q1 (X1), Q2 (X2)	91Z2SC945	Constant Voltage (2SC945)	**	LED (Light Emitting Diode)			
Q3 (X3), Q4 (X4)	91Z2SC945	Differential Amplifier (2SC945)	**	LED101	VHPGL-52AR/1F	FM Stereo Indicator (GL52AR)	AD
Q5 (X5)	91Z2SC945	Saw Tooth Wave Generator (2SC945)	**	LED406	VHPGL5NG6//-1	Channel Selector Indicator MANUAL (GL5NG6)	AG
Q6 (X6), Q7 (X7)	91Z2SC945	Reference Voltage Comparator (2SC945)	**	LED407	VHPGL5PR6//-1	Channel Selector Indicator U1 (GL5PR6)	AH
Q8 (X8)	91Z2SA641	Phono Motor Drive (2SA641)	**	LED408	VHPGL5PR6//-1	Channel Selector Indicator U2 (GL5PR6)	AH
Q9 (X9)	91Z2SC1449	Phono Motor Drive (2SC1449)	**	LED409	VHPGL5PR6//-1	Channel Selector Indicator U3 (GL5PR6)	AH
Notes:				LED410	VHPGL5PR6//-1	Channel Selector Indicator U4 (GL5PR6)	AH
Q1	: or 91Z2SC828, 91Z2SC733			LED411	VHPGL5PR6//-1	Channel Selector Indicator U5 (GL5PR6)	AH
Q2-Q7	: or 91Z2SC828, 91Z2SC733, 91Z2SC923			DIODES			
Q9	: or 91Z2SC1568, 91Z2SC495			D1	91ZVD1122	Voltage Regulator VD1122)	**
Q101	VS2SC460-B/-1	FM IF Amp. (2SC460 B)	AC				
Q102	VS2SC458-B/-1	FM Muting (2SC458 B)	AC				
Q103	VS2SC458AC/-1	U-FM Meter Amp. (2SC458 AC)	AC				
Q301	VS2SC461-B/-1	AM Local Oscillator (2SC461 B)	AC				
Q303, Q304	VS2SC458-D/-1	Audio Muting (2SC458 D)	AC				
Q401	VS2SA893-E/-1	FM Muting for Channel Select (2SA893 E)	AD				
Q501	VS2SA561-Y/-1	Switching (2SA561 Y)	AD				

** : Price will be quoted upon receipt of order.

PARTS LIST

• (D251, ZD251) : Refer to Page No. 62.

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
D2	91Z1S953	Surge Absorber (1S953)	**	D819,			
D101,	VHD1N60///-1	FM AGC (1N60)	AB	D820,			
D102				D821,			
D103	VHD1S2076//-1	FM Muting (1S2076)	AB	D822,	VHD1S2473//-1	Protector, Reverse Current (1S2473)	AB
D104	VHD1S2076//-1	Level Shift FM Meter (1S2076)	AB	D823,			
				D824			
D105	VHD1S2076//-1	Protector, Reverse Current (1S2076)	AB	ZD701	RH-IX1048AFZZ	33V Zener (μ PC574J)	AH
				ZD702	VHERD3R9FC1-1	3.9V Zener (RD3.9FC)	AE
D109,	VHD10E1///-1	Temperature Regulator (10E1)	AC	ZD703	VHEHZ16///-1	16V Zener (HZ16)	AC
D110							
D111,							
D112,	VHD1S2076//-1	Temperature Regulator (1S2076)	AB				
D113,							
D114							
D116	VHD1N60///-1	U-FM Meter Drive (1N60)	AB	L102	RCILZ0052AFZZ	18 μ H, Phase Shift	AB
D301,	VHD1S2473//-1	Level Shift for Audio Muting (1S2473)	AB	L103	VP-LH100M0000	10 μ H, Choke	AB
D302				L105,			
D401,				L106	RCIL10011SGZZ	19kHz, Low Pass Filter	AG
D402,				L107	VP-LH100M0000	10 μ H, Choke	AB
D403,	VHD1S2473//-1	Protector, Reverse Current (1S2473)	AB	L108	VP-LH8R2M0000	8.2 μ H, Choke	AB
D404,				L109	RCILA0416AFZZ	Antenna (LW and MW)	AN
D405				L301,			
				L302	VP-LH470M0000	47 μ H, Spurious	AB
D501	VHD1S1555V/1G	Protector, Reverse Current for APSS Muting (1S1555)	AC	L303	RCILA0052AGZZ	SW Antenna	AD
D502	VHD1S1555V/1G	Protector, Reverse Current for APSS Drive (1S1555)	AC	L304	RCILB0391AFZZ	SW Oscillator	AE
D503	RH-DX1006AFZZ	Surge Absorber (10E1)	AC	L305	RCILB0427AFZZ	MW Oscillator	AD
D504	VHD1S1555V/1G	Protector, Reverse Current for Auto Stop (1S1555)	AC	L306	RCILB0388AFZZ	LW Oscillator	AD
				L401	VP-LH100M0000	10 μ H, Choke	AB
D505	VHD1S1555V/1G	Level Shift (1S1555)	AC	L701	VP-LH101M0000	100 μ H, Choke	AB
D506	VHD1S1555V/1G	Rectifier for Auto Stop Sensor (1S1555)	AC	L801,			
				L802,			
D507	VHD1S1555V/1G	Level Shift (1S1555)	AC	L803,	RCILZ0019AGZZ	6.8mH, Record Equalizer	AD
D508	VHD1S1555V/1G	Rectifier for Auto Stop Sensor (1S1555)	AC	L804,			
				K805,			
				L806			
D701	VHVHV46-G//-1	Current Regulator (HV46)	AC	L807	RCILB0419AFZZ	Bias Oscillator	AE
D702	VHD10E1///-1	Protector Regulator (10E1)	AC	L809,	RCILB0420AFZZ	Bias Step up	AE
D703,				L810			
D704,				L811,	RCILL0059AFZZ	15kHz, LPF for Dolby NR	AF
D705,				L812			
D706,	VHD10E1///-1	Rectifier (10E1)	AC	L813,	RCILL0060AFZZ	15kHz, LPF for Dolby NR	AG
D707,				L814			
D708							
D709,							
D710,	VHD30D2///-1	Rectifier (30D2)	AF				
D711,							
D712							
D713,	VHD1S2473//-1	Protector, Reverse Current (1S2473)	AB	T51	RTRNP0560AFZZ	Power	**
D714				T101	RCILD0055AFZZ	Quadrature	AE
D803,				T102	RCILD0056AFZZ	Quadrature	AE
D804,				T103	RCILI0209AFZZ	AM IFT (455kHz)	AH
D805,	VHD1N60-PP/1G	Rectifier, ALC and Level Meter (1N60PP)	AB	T104	RCILI0222AFZZ	IF Trap Filter	AD
D806,				T105	RCILI0219AFZZ	AM IFT (455kHz)	AE
D807,							
D808							
D809,							
D810,							
D811,	VHD1S2473//-1	Switching, Record Equalizer (1S2473)	AB				
D812,							
D813,							
D814							
D815,							
D816,	VHD1S2473//-1	Protector, Reverse Current (1S2473)	AB	VC1	RVC-A0050AFZZ	Variable Tuning Gang	AX
D817,				(A, B)			
D818				TC301	RTO-H1053AFZZ	Trimmer, SW OSC	AC
				TC302	RTO-H1007AFZZ	Trimmer, SW ANT	AC

COILS

TRANSFORMERS

CERAMIC FILTERS

CONTROLS

PARTS LIST

● (C154 ~ C259) : Refer to Page No. 62.

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
TC303 (A, B)	RTO-H2051AFZZ	Trimmer Ass'y A: MW OSC B: LW OSC	AE	C119	VCAAAU1EB224K	.22MFD, 25V, ±10%, Aluminum	AC
TC305	RTO-H1007AFZZ	Trimmer, MW ANT	AC	C120	VCAAAU1EB474K	.47MFD, 25V, ±10%, Aluminum	AC
TC306	RTO-H1007AFZZ	Trimmer, LW ANT	AC	C125	VCEAAU1EW336Y	33MFD, 25V, +50 –10%	AC
VR1	91ZVZ084KL	1K ohm (B), Pitch Control (33-1/3 rpm)	**	C127	VCEAAU1VW107Y	100MFD, 35V, +50 –10%	AD
VR2	91ZVZ083KL	1K ohm (B), Pitch Control (45 rpm)	**	C128, C129	VCEAAU1EW335A	3.3MFD, 25V, +75 –10%	AB
VR3, VR4	Not Available	Player Parts 056	N.A.	C133	VCEAAU1AW107Y	100MFD, 10V, +50 –10%	AB
VR101	RVR-M0103AFZZ	6.8K ohm (B) VCO Adjust	AC	C137	VCEAAU1EW475A	4.7MFD, 25V, +75 –10%	AB
VR102	RVR-M0012AFZZ	1K ohm (B) Separation Adjust	AC	C145	VCEAAU1VW107Y	100MFD, 35V, +50 –10%	AD
VR103	RVR-M0080AGZZ	22K ohm (B) Frequency Low Adjust	AG	C147, C148	VCEAAU1EW335A	3.3MFD, 25V, +75 –10%	AB
VR104	RVR-M0086AGZZ	220K ohm (B) Frequency High Adjust	AG	C152	VCAAAU1EB104K	.1MFD, 25V, ±10%, Aluminum	AC
VR105	RVR-M0128AFZZ	20K ohm (B) U-FM Meter Adjust	AC	C154	VCEAAU1EW227Y	220MFD, 25V, +50 –10%	AC
VR106	RVR-M0126AFZZ	5K ohm (B) U-FM Meter Adjust	AC	C155, C156	VCEALU1EW475M	4.7MFD, 25V, ±20%, Low Noise	AD
VR401	RVR-Z0058AFZZ	100K ohm (B), U1 Pre-set Tuning	AG	C157, C158	VCEAAU1CW106Y	10MFD, 16V, +50 –10%	AB
VR402	RVR-Z0058AFZZ	100K ohm (B), U2 Pre-set Tuning	AG	C159, C160	VCEAAU1CW336Y	33MFD, 16V, +50 –10%	AC
VR403	RVR-Z0058AFZZ	100K ohm (B), U3 Pre-set Tuning	AG	C169, C170	VCEAAU1HW105A	1MFD, 50V, +75 –10%	AB
VR404	RVR-Z0058AFZZ	100K ohm (B), U4 Pre-set Tuning	AG	C171, C172	VCEALU1EW475M	4.7MFD, 25V, ±20%, Low Noise	AD
VR405	RVR-Z0058AFZZ	100K ohm (B), U5 Pre-set Tuning	AG	C173, C174	VCEAAU1CW106Y	10MFD, 16V, +50 –10%	AB
VR406	RVR-Z0058AFZZ	100K ohm (B), U4 Pre-set Tuning	AG	C175, C176	VCEAAU1CW336Y	33MFD, 16V, +50 –10%	AC
VR405	RVR-Z0058AFZZ	100K ohm (B), U5 Pre-set Tuning	AG	C181, C182	VCEALU1HW474M	.47MFD, 50V, ±20%, Low Noise	AB
VR406	RVR-M0075AGZZ	2.2K ohm (B) FM Muting Adjust	AF	C184	VCEAAU1EW107Y	100MFD, 25V, +50 –10%	AC
VR601, VR602	RVR-P0054AFZZ	50K ohm (A) Record Level	AG	C191	VCEAAU1HW105A	1MFD, 50V, +75 –10%	AB
VR603	RVR-Q0051AFZZ	100K ohm (B) Balance	AH	C322	VCEAAU1HW105A	1MFD, 50V, +75 –10%	AB
VR604 (A, B)	RVR-Q0052AFZZ	100K ohm (B) Volume	AL	C407	VCEAAU1HW105A	1MFD, 50V, +75 –10%	AB
VR605 (A, B)	RVR-P0060AFZZ	50K ohm (A) Treble	AK	C409	VCEAAU1CW106Y	10MFD, 16V, +50 –10%	AB
VR606 (A, B)	RVR-P0060AFZZ	50K ohm (A) Bass	AK	C501	VCEAAU1HW105A	1MFD, 50V, +75 –10%	AB
VR801, VR802	RVR-M0093AGZZ	10K ohm (B) Playback Sensitivity Adjust	AC	C502	VCEALU1HW475M	4.7MFD, 50V, ±20%, Low Noise	AD
VR803, VR804	RVR-M0127AFZZ	10K ohm (B) Level Meter Sensitivity Adjust	AC	C503	VCEAAU1CW336Y	33MFD, 16V, +50 –10%	AC
VR805, VR806	RVR-M0127AFZZ	10K ohm (B) Overall Sensitivity Adjust	AC	C504	VCEALU1HW474M	.47MFD, 50V, ±20%, Low Noise	AD
VR807, VR808	RVR-M0180AFZZ	20K ohm (B) Overall Sensitivity Adjust	**	C505	VCEAAU1CW336Y	33MFD, 16V, +50 –10%	AC
VR809, VR810	RVR-M0127AFZZ	10K ohm (B) Overall Sensitivity Adjust	AC	C506	VCEAAU1AW107Y	100MFD, 10V, +50 –10%	AB
VR811, VR812	RVR-M0155AFZZ	5K ohm (B) Bias Adjust	AC	C507	VCEAAU1AW336Y	33MFD, 10V, +50 –10%	AB
				C508	VCEAAU1CW107Y	100MFD, 16V, +50 –10%	AB
				C509	VCEAAU1HW475A	4.7MFD, 50V, +75 –10%	AB
				C510	VCEAAU1CW476Y	47MFD, 16V, +50 –10%	AC
				C601, C602	VCEALU1HW224M	.22MFD, 50V, ±20%, Low Noise	AB
				C605, C606	VCEAAU1CW336Y	33MFD, 16V, +50 –10%	AB
				C613, C614	VCEALU1HW224M	.22MFD, 50V, ±20%, Low Noise	AB
				C615, C616	VCEALU1HW225M	2.2MFD, 50V, ±20%, Low Noise	AD
				C619, C620	VCEAAU1EW335A	3.3MFD, 25V, +75 –10%	AB
				C623	VCEAAU1VW107Y	100MFD, 35V, +50 –10%	AD
C3	VCEAAU1EW106Y	10MFD, 25V, +50 –10%	**	C701, C702	VCAAAU1EB334M	.33MFD, 25V, ±20%, Aluminum	AC
C4	VCEAAU1HW105A	1MFD, 50V, +75 –10%	**	C705, C706	VCEAAU1EW476Y	47MFD, 25V, +50 –10%	AC
C110	VCAAAU1EB474K	.47MFD, 25V, ±10%, Aluminum	AC	C707, C708	VCEASU1EW107Y	100MFD, 25V, +50 –10% Non Blow up	**
C114	VCEAAU1HW105A	1MFD, 50V, +75 –10%	AB				
C115	VCEAAU1EW475A	4.7MFD, 25V, +75 –10%	AB				

PARTS LIST

●(C161 ~ C185) : Refer to Page No. 63.

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
C711, C712, C713, C714	VCEASU1VW476Y	47MFD, 35V, +50 -10%, Non Blow up	**	C890, C892, C895, C896, C897	VCEAAU1EW475A	4.7MFD, 25V, +75 -10%	AB
C718	RC-EZ1084AFZZ	2200MFD, 63V Non Blow up	**	C903, C904	VCEAAU1CW106Y	10MFD, 16V, +50 -10%	AB
C719	VCEAAU1HW105A	1MFD, 50V, +75 -10%	AB		VCEALU1CC106Y	10MFD, 16V, +50 -10%	AC
C720	VCEAAU1HW476Y	47MFD, 50V, +50 -10%	AC	CAPACITORS			
C721	VCEAAU1JW337Y	330MFD, 63V, +50 -10%	AF	(Unless otherwise specified capacitors are 50V, +80 -20%, Ceramic type.)			
C723	VCEAAU1VW107Y	100MFD, 35V, +50 -10%	AD	C1	VCQYKU1HM102K	.001MFD, 50V, ±10%, Mylar	**
C725	VCEAAU1VW107Y	100MFD, 35V, +50 -10%	AD	C2	VCQYKU1HM472K	.0047MFD, 50V, ±10%, Mylar	**
C726	VCEAAU1EW107Y	100MFD, 25V, +50 -10%	AC	C5, C6	VCKYPU1HB502K	.005MFD, 50V, ±10%, Ceramic	**
C727	VCEAAU1VW227Y	220MFD, 35V, +50 -10%	AD	C51	RC-PZ062CAFZZ	.033MFD, AC 450V, ±20%, Oil	AG
C728	VCEAAU1VW107Y	100MFD, 35V, +50 -10%	AD	C101	VCKZPU1HF472Z	.0047MFD	**
C729	VCEAAU1VW107Y	100MFD, 35V, +50 -10%	AD	C102	VCKZPU1HF223Z	.002MFD	**
C730	VCEAAU1CW108Y	1000MFD, 16V, +50 -10%	AE	C103	VCCSPU1HL100C	10PF, 50V, ±.25PF, Ceramic	**
C733	VCEAAU1VW108Y	1000MFD, 35V, +50 -10%	AG	C104	VCKZPU1HF103Z	.01MFD	**
C735	RC-EZ1078AFZZ	3300MFD, 80V	**	C105, C106, C107, C108	VCKZPU1HF223Z	.022MFD	**
C737	VCEAAU1HW107Y	100MFD, 50V, +50 -10%	AD	C109	VCCSPU1HL820K	82PF, 50V, ±10%, Ceramic	**
C738	RC-EZ1079AFZZ	2200MFD, 35V, Non Blow up	**	C111, C112, C113	VCKZPU1HF223Z	.022MFD	**
C743, C744	VCEAAU2AW106Y	10MFD, 100V, +50 -10%	AC	C116	VCCSPU1HL52J	1500PF, 50V, ±5%, Styrol	AB
C803, C804	VCEALU1EW475M	4.7MFD, 25V, ±20%, Low Noise	AD	C118	VCQYKU1HM473J	.047MFD, 50V, ±5%, Mylar	AC
C805, C806	VCEALU1CC106Y	10MFD, 16V, +50 -10%, Low Noise	AC	C121, C122	VCQYKU1HM102J	.001MFD, 50V, ±5%, Mylar	AC
C807, C808	VCEAAU1AW476Y	47MFD, 10V, +50 -10%	AB	C123, C124	VCQYKU1HM153J	.015MFD, 50V, ±5%, Mylar	AC
C813, C814	VCEAAU1CW106Y	10MFD, 16V, +50 -10%	AB	C126	VCKZPU1HF223Z	.022MFD	**
C817, C818	VCEALU1HW105M	1MFD, 50V, ±20%, Low Noise	AD	C130, C131	VCQYKU1HM472J	.0047MFD, 50V, ±5%, Mylar	AC
C819, C820	VCEALU1HW105M	1MFD, 50V, ±20%, Low Noise	AD	C132	VCKZPU1HF223Z	.022MFD	**
C821, C822	VCEALU1HW105M	1MFD, 50V, ±20%, Low Noise	AD	C134, C135	VCKZPU1HF223Z	.022MFD	**
C823	VCEAAU1CW477Y	470MFD, 16V, +50 -10%	AD	C136	VCKZPU1HF104Z	.1MFD	**
C825, C826	VCEAAU1AW227Y	220MFD, 10V, +50 -10%	AC	C138	VCKZPU1EF403Z	.04MFD, 25V, +80 -20%, Ceramic	**
C827, C828	VCEAAU1CW106Y	10MFD, 16V, +50 -10%	AB	C139	VCCSPU1HL470J	47PF, 50V, ±5%, Ceramic	**
C829, C830	VCAAAU1EB104K	.1MFD, 25V, ±10%, Aluminum	AC	C140	VCKZPU1HF103Z	.01MFD	**
C831, C832	VCAAAU1EB334K	.33MFD, 25V, ±10%, Aluminum	AC	C141, C142, C143	VCKZPU1EF403Z	.04MFD, 25V, +80 -20%, Ceramic	**
C833, C834, C835, C836, C837, C838, C841, C842	VCEAAU1CW106Y	10MFD, 16V, +50 -10%	AB	C146	VCQYKU1HM682K	.0068MFD, 50V, ±10%, Mylar	AB
C849, C850	VCEAAU1EW335A	3.3MFD, 25V, +75 -10%	AB	C149, C150	VCKZPU1HF103Z	.01MFD	**
C851, C852, C853, C854, C857, C858	VCEAAU1CW106Y	10MFD, 16V, +50 -10%	AB	C151	VCKZPU1HF102P	.001MFD, 50V, +100 -0%, Ceramic	**
C871	VCEAAU1VW107Y	100MFD, 35V, +50 -10%	AD	C153	VCQYKU1HM183J	.018MFD, 50V, ±5%, Mylar	AC
C872	VCEAAU1AW107Y	100MFD, 10V, +50 -10%	AB	C161, C162	VCCSPU1HL471K	470PF, 50V, ±10%, Ceramic	**
C873	VCEAAU1CW107Y	100MFD, 16V, +50 -10%	AC	C163, C164	VCQYKU1HM222K	.0022MFD, 50V, ±10%, Mylar	**
C878	VCEAAU1CW226Y	22MFD, 16V, +50 -10%	AB	C165, C166	VCQYKU1HM822K	.0082MFD, 50V, ±10%, Mylar	**
C879	VCEAAU1CW107Y	100MFD, 16V, +50 -10%	AC	C167, C168	VCCSPU1HL151K	150PF, 50V, ±10%, Ceramic	**
C882	VCEAAU1EW107Y	100MFD, 25V, +50 -10%	AC	C177, C178	VCKZPU1HF102P	.001MFD, 50V, +100 -0%, Ceramic	**
C885	VCEAAU1EW227Y	220MFD, 25V, +50 -10%	AC	C179, C180	VCCSPU1HL151K	150PF, 50V, ±10%, Ceramic	**
				C185	VCCSPU1HL560K	56PF, 50V, ±10%, Ceramic	**

PARTS LIST

● (C186 ~ C258) : Refer to Page No. 63.

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
C186	VCCSPU1HL560K	56PF, 50V, $\pm 10\%$, Ceramic	**	C810	VCQYKU1HM102J	.001MFD, 50V, $\pm 5\%$, Mylar	AC
C187, C188	VCCSPU1HL152K	.0015MFD, 50V, $\pm 10\%$, Ceramic	**	C811, C812	VCCSPU1HL151K	150PF, 50V, $\pm 10\%$, Ceramic	**
C189, C190	VCKYPU1HB152K	.0015MFD, 50V, $\pm 10\%$, Ceramic	**	C815, C816	VCQYKU1HM123J	.012MFD, 50V, $\pm 5\%$, Mylar	AC
C192	VCKZPU1HF223Z	.022MFD	**	C839, C840	VCQYKU1HM472J	.0047MFD, 50V, $\pm 5\%$, Mylar	AC
C193, C194	VCCSPU1HL331K	330PF, 50V, $\pm 10\%$, Ceramic	**	C843, C844	VCQYKU1HM273J	.027MFD, 50V, $\pm 5\%$, Mylar	AC
C301	VCCSPU1HL330J	33PF, 50V, $\pm 5\%$, Ceramic	**	C845, C846	VCQYKU1HM473J	.047MFD, 50V, $\pm 5\%$, Mylar	AC
C302	VCCSPU1HL680J	68PF, 50V, $\pm 5\%$, Ceramic	**	C847, C848	VCQYKU1HM562J	.0056MFD, 50V, $\pm 5\%$, Mylar	AC
C303, C304	VCKZPU1HF473Z	.047MFD	**	C859, C860	VCQYKU1HM273J	.027MFD, 50V, $\pm 5\%$, Mylar	AC
C305	VCQSMT1HS472J	4700PF, 50V, $\pm 5\%$, Styrol	AC	C861, C862	VCQYKU1HM223J	.022MFD, 50V, $\pm 5\%$, Mylar	AC
C306	VCKZPU1HF102P	.001MFD, 50V, $\pm 100 - 0\%$, Ceramic	**	C863, C864	VCQYKU1HM683J	.068MFD, 50V, $\pm 5\%$, Mylar	AD
C307	VCCSPU1HL150J	15PF, 50V, $\pm 5\%$, Ceramic	**	C865, C866	VCQYKU1HM273J	.027MFD, 50V, $\pm 5\%$, Mylar	AC
C308	VCKZPU1HF473Z	.047MFD	**	C867, C868	VCQYKU1HM123J	.012MFD, 50V, $\pm 5\%$, Mylar	AC
C309	VCQSMT1HS471J	470PF, 50V, $\pm 5\%$, Styrol	AB	C869, C870	VCQYKU1HM273J	.027MFD, 50V, $\pm 5\%$, Mylar	AC
C310	VCCUPU1HJ180J	18PF, 50V, $\pm 5\%$, Ceramic	**	C875	VCQYKU1HM223J	.022MFD, 50V, $\pm 5\%$, Mylar	AB
C311	VCCUPU1HJ100C	10PF, 50V, $\pm 25\%$, Ceramic	**	C876	VCKYPU1HB102K	.001MFD, 50V, $\pm 10\%$, Ceramic	**
C312	VCCUPU1HJ560J	56PF, 50V, $\pm 5\%$, Ceramic	**	C877	VCCSPU1HL101K	100PF, 50V, $\pm 10\%$, Ceramic	**
C313	VCQSMU1HS181J	180PF, 50V, $\pm 5\%$, Styrol	AB	C880	VCQYKU1HM223J	.022MFD, 50V, $\pm 5\%$, Mylar	AC
C314	VCCSPU1HL6R0C	6PF, 50V, $\pm 25\%$, Ceramic	**	C881	VCQYKU1HM473J	.047MFD, 50V, $\pm 5\%$, Mylar	AC
C315	VCCSPU1HL180J	18PF, 50V, $\pm 5\%$, Ceramic	**	C883, C884	VCQYKU1HM123J	.012MFD, 50V, $\pm 5\%$, Mylar	AC
C317, C318	VCCSPU1HL681K	680PF, 50V, $\pm 10\%$, Ceramic	**	C886	VCQYKU1HM223J	.022MFD, 50V, $\pm 5\%$, Mylar	AB
C319, C320	VCQYKU1HM333K	.033MFD, 50V, $\pm 10\%$, Mylar	AB	C887	VCKZPU1HF473Z	.047MFD	**
C321	VCKZPU1HF103Z	.01MFD	**	C888, C889	VCKYPU1HB821K	820PF, 50V, $\pm 10\%$, Ceramic	**
C323	VCCSPU1HL8R0C	8PF, 50V, $\pm 25\%$, Ceramic	**	C891	VCQYKU1HM103M	.01MFD, 50V, $\pm 20\%$, Mylar	AB
C324	VCCCPU1HH6R0C	6PF, 50V, $\pm 25\%$, Ceramic	**	C893, C894	VCKYPU1HB152K	.0015MFD, 50V, $\pm 10\%$, Ceramic	**
C401, C402, C403, C404, C405, C406	VCKZPU1HF102P	.001MFD, 50V, $\pm 100 - 0\%$, Ceramic	**	C899, C900	VCKZPU1HF102Z	.001MFD	**
C408	VCKZPU1HF473Z	.047MFD	**	C901, C902	VCCSPU1HL470K	47PF, 50V, $\pm 10\%$, Ceramic	**
C603, C604	VCCSPU1HL4R0C	4PF, 50V, $\pm 25\%$, Ceramic	**	RESISTORS (Unless otherwise specified resistors are 1/4W, $\pm 5\%$, Carbon type.)			
C607, C608	VCQYKU1HM472K	.0047MFD, 50V, $\pm 10\%$, Mylar	AB				
C609, C610	VCQYKU1HM223K	.022MFD, 50V, $\pm 10\%$, Mylar	AB	R1	VRD-SU2EY562J	5.6K ohm	**
C611, C612	VCQYKU1HM473K	.047MFD, 50V, $\pm 10\%$, Mylar	AC	R2	VRD-SU2EY682J	6.8K ohm	**
C617, C618	VCCSPU1HL151K	150PF, 50V, $\pm 10\%$, Ceramic	**	R3	VRD-SU2EY822J	8.2K ohm	**
C621, C622	VCKYPU1HB152K	.0015MFD, 50V, $\pm 10\%$, Ceramic	**	R4	VRD-SU2EY182J	1.8K ohm	**
C703, C704	VCKYPU1HB332M	.0033MFD, 50V, $\pm 20\%$, Ceramic	**	R5	VRD-SU2EY682J	6.8K ohm	**
C715, C716	VCQYKU1HM473K	.047MFD, 50V, $\pm 10\%$, Mylar	AC	R6	VRD-SU2EY182J	1.8K ohm	**
C722, C724	VCKZPU1HF223Z	.022MFD	**	R7	VRD-SU2EY682J	6.8K ohm	**
C731, C732, C734, C736	VCKZPU1MF333P	.033MFD, 75V, $\pm 100 - 0\%$, Ceramic	**	R8	VRD-SU2EY682J	6.8K ohm	**
C739, C740	VCKZPU1HF473Z	.047MFD	**	R9	VRD-SU2EY123J	12K ohm	**
C801, C802	VCCSPU1HL391K	390PF, 50V, $\pm 10\%$, Ceramic	**	R10	VRD-SU2EY562J	5.6K ohm	**
C809	VCQYKU1HM102J	.001MFD, 50V, $\pm 5\%$, Mylar	AC	R11	VRD-SU2EY104J	100K ohm	**
				R12	VRD-SU2EY682J	6.8K ohm	**
				R13	VRD-SU2EY182J	1.8K ohm	**
				R14	VRD-SU2EY472J	4.7K ohm	**
				R15	VRD-SU2EY122J	1.2K ohm	**
				R16	VRD-SU2EY682J	6.8K ohm	**

PARTS LIST

• (R168 ~ R259) : Refer to Page No. 63.

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
R17	VRD-SU2EY182J	1.8K ohm	**	R168	VRG-ST2EA101J	100 ohm, Fusible	AB
R18	VRD-SU2EY472J	4.7K ohm	**	R169,	VRD-ST2EE104J	100K ohm	**
R20	VRD-SU2EY222J	2.2K ohm	**	R170			
R21	VRC-MT2HG4R7K	4.7 ohm, 1/2W, $\pm 10\%$, Carbon	**	R171	VRD-ST2EE275J	2.7 Meg ohm	**
R22	VRD-SU2EY561J	560 ohm	**	R173,	VRD-ST2EE152J	1.5K ohm	**
R23	VRD-SU2EY331J	330 ohm	**	R174			
R24	VRS-PT3DB822K	8.2K ohm, 2W, $\pm 10\%$, Carbon	**	R175,	VRD-ST2EE222J	2.2K ohm	**
R101	VRD-ST2EE100J	10 ohm	**	R176			
R102	VRD-ST2EE104J	100K ohm	**	R177,	VRD-ST2EE104J	100K ohm	**
R103	VRD-ST2EE223J	22K ohm	**	R178			
R104	VRD-ST2EE562J	5.6K ohm	**	R179,	VRD-ST2EE563J	56K ohm	**
R105	VRD-ST2EE102J	1K ohm	**	R180			
R106,	VRD-ST2EE331J	330 ohm	**	R181,	VRD-ST2EE333J	33K ohm	**
R107				R182			
R108	VRD-ST2EE104J	100K ohm	**	R183,	VRD-ST2EE394J	390K ohm	**
R109	VRD-SU2EY224J	220K ohm	**	R184			
R110	VRD-SU2EY274J	270K ohm	**	R185,	VRD-ST2EE154J	150K ohm	**
R111	VRD-ST2EE104J	100K ohm	**	R186			
R120	VRD-ST2EE152J	1.5K ohm	**	R187,	VRD-ST2EE153J	15K ohm	**
R121	VRD-ST2EE562J	5.6K ohm	**	R188			
R122	VRD-ST2EE222J	2.2K ohm	**	R189,	VRD-ST2EE104J	100K ohm	**
R123	VRD-ST2EE104J	100K ohm	**	R190			
R124	VRD-ST2EE183J	18K ohm	**	R191,	VRD-ST2EE123J	12K ohm	**
R125	VRD-ST2EE472J	4.7K ohm	**	R192			
R126	VRD-ST2EE103J	10K ohm	**	R193,	VRD-ST2EE821J	820 ohm	**
R127	VRD-ST2EE183J	18K ohm	**	R194			
R128	VRD-ST2EE123J	12K ohm	**	R195,	VRD-ST2EE104J	100K ohm	**
R129	VRD-ST2EE223J	22K ohm	**	R196			
R130	VRD-ST2EE561J	560 ohm	**	R197	VRD-ST2EE222J	2.2K ohm	**
R131	VRD-ST2EE221J	220 ohm	**	R198	VRD-ST2EE222J	2.2K ohm	**
R132	VRD-ST2EE124J	120K ohm	**	R199,	VRD-ST2EE563J	56K ohm	**
R133	VRD-ST2EE104J	100K ohm	**	R200			
R134	VRD-ST2EE822J	8.2K ohm	**	R201,	VRD-ST2EE823J	82K ohm	**
R135	VRD-ST2EE681J	680 ohm	**	R202			
R136,	VRD-ST2EE682J	6.8K ohm	**	R203,	VRD-ST2EE560J	56 ohm	**
R137				R204			
R138	VRD-ST2EE332J	3.3K ohm	**	R205,	VRD-ST2EE153J	15K ohm	**
R139	VRD-ST2EE104J	100K ohm	**	R206			
R140,	VRD-ST2EE562J	5.6K ohm	**	R207	VRG-ST2EA101J	100 ohm, Fusible	AB
R141				R209,	VRD-ST2EE560J	56 ohm	**
R142,	VRD-ST2EE333J	33K ohm	**	R210			
R143				R211,	VRD-ST2EE273J	27K ohm	**
R144	VRD-ST2EE561J	560 ohm	**	R212			
R145	VRD-ST2EE121J	120 ohm	**	R213,	VRD-ST2EE333J	33K ohm	**
R147	VRD-ST2EE333J	33K ohm	**	R214			
R148	VRD-ST2EE122J	1.2K ohm	**	R215,	VRD-ST2EE224J	220K ohm	**
R149	VRD-ST2EE334J	330K ohm	**	R216			
R150	VRD-ST2EE105J	1 Meg ohm	**	R217	VRD-ST2EE472J	4.7K ohm	**
R151	VRD-ST2EE100J	10 ohm	**	R301	VRD-ST2EE100J	10 ohm	**
R152	VRD-ST2EE562J	5.6K ohm	**	R302	VRD-ST2EE223J	22K ohm	**
R153	VRD-ST2EE151J	150 ohm	**	R303	VRD-ST2EE822J	8.2K ohm	**
R154	VRG-ST2EA330J	33 ohm, Fusible	AB	R304	VRD-ST2EE102J	1K ohm	**
R155	VRD-ST2EE222J	2.2K ohm	**	R305	VRD-ST2EE222J	2.2K ohm	**
R156	VRD-ST2EE562J	5.6K ohm	**	R306	VRD-SU2EY562J	5.6K ohm	**
R157	VRD-ST2EE563J	56K ohm	**	R307	VRD-ST2EE223J	22K ohm	**
R158	VRD-ST2EE103J	10K ohm	**	R308	VRD-ST2EE224J	220K ohm	**
R159	VRD-ST2EE332J	3.3K ohm	**	R309	VRD-SU2EY104J	100K ohm	**
R160	VRD-ST2EE103J	10K ohm	**	R311,	VRD-ST2EE562J	5.6K ohm	**
R161	VRD-ST2EE332J	3.3K ohm	**	R312			
R162	VRD-ST2EE100J	10 ohm	**	R313,			
R163,	VRD-ST2EE105J	1 Meg ohm	**	R314,	VRD-ST2EE123J	12K ohm	**
R164				R315,			
R165	VRD-ST2EE103J	10K ohm	**	R316			
R166	VRD-ST2EE333J	33K ohm	**	R319	VRD-ST2EE122J	1.2K ohm	**
R167	VRD-ST2EE273J	27K ohm	**	R320	VRD-ST2EE333J	33K ohm	**

PARTS LIST

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
R401	VRD-ST2EE273J	27K ohm	**	R624	VRD-ST2EE152J	1.5K ohm	**	R829	VRD-ST2EE223J	22K ohm	**	R901	VRD-ST2EE473J	47K ohm	**
R402	VRD-ST2EE335J	3.3 Meg ohm	**	R625	VRD-ST2EE681J	680 ohm	**	R830			**	R902	VRD-ST2EE821J	820 ohm	**
R403	VRC-MT2HG106K	10 Meg ohm, 1/2W, ±10%, Carbon	**	R626			**	R831	VRD-ST2EE105J	1 Meg ohm	**	R903	VRD-ST2EE473J	47K ohm	**
R404	VRD-ST2EE335J	3.3 Meg ohm	**	R701	VRD-ST2EE102J	1K ohm	**	R832			**	R904	VRD-ST2EE472J	4.7K ohm	**
R405	VRC-MT2HG106K	10 Meg ohm, 1/2W, ±10%, Carbon	**	R702			**	R833	VRD-ST2EE182J	1.8K ohm	**	R905	VRD-ST2EE124J	120K ohm	**
R406	VRD-ST2EE471J	470 ohm	**	R703	VRD-ST2EE184J	180K ohm	**	R834			**	R906			**
R407	VRD-ST2EE335J	3.3 Meg ohm	**	R704			**	R835	VRD-ST2EE272J	2.7K ohm	**	R907	VRD-ST2EE560J	56 ohm	**
R408	VRD-ST2EE122J	1.2K ohm	**	R705	VRG-ST2EA151J	150 ohm, Fusible	AB	R836			**	R908			**
R409	VRC-MT2HG106K	10 Meg ohm, 1/2W, ±10%, Carbon	**	R706			**	R837	VRD-ST2EE123J	12K ohm	**	R909	VRC-MT2HG331K	330 ohm, 1/2W, ±10%, Carbon	**
R410	VRD-ST2EE122J	1.2K ohm	**	R707	VRD-ST2EE103J	10K ohm	**	R838			**	R911	VRD-ST2EE473J	47K ohm	**
R411	VRD-ST2EE335J	3.3 Meg ohm	**	R708			**	R839	VRD-ST2EE102J	1K ohm	**	R912			**
R412	VRC-MT2HG106K	10 Meg ohm, 1/2W, ±10%, Carbon	**	R709	VRD-ST2EE100J	10 ohm	**	R843	VRD-ST2EE274J	270K ohm	**	R913	VRD-ST2EE223J	22K ohm	**
R413	VRD-ST2EE335J	3.3 Meg ohm	**	R710			**	R844			**	R914	VRD-ST2EE224J	220K ohm	**
R414	VRD-ST2EE122J	1.2K ohm	**	R711	VRD-ST2EE563J	56K ohm	**	R845	VRD-ST2EE274J	270K ohm	**	R915	VRD-ST2EE224J	220K ohm	**
R415	VRC-MT2HG106K	10 Meg ohm, 1/2W, ±10%, Carbon	**	R712			**	R846			**	R916	VRD-ST2EE683J	68K ohm	**
R416	VRD-ST2EE335J	3.3 Meg ohm	**	R713	VRD-ST2EE474J	470K ohm	**	R847	VRD-ST2EE564J	560K ohm	**	R917	VRD-ST2EE154J	150K ohm	**
R417	VRC-MT2HG106K	10 Meg ohm, 1/2W, ±10%, Carbon	**	R714			**	R848			**	R918	VRD-ST2EE222J	2.2K ohm	**
R418			**	R715	VRG-ST2EA101J	100 ohm, Fusible	AB	R849	VRD-ST2EE392J	3.9K ohm	**	R919	VRC-MT2HG221	220 ohm, 1/2W, ±10%, Carbon	**
R419	VRD-ST2EE122J	1.2K ohm	**	R716			**	R850			**	R920	VRD-ST2EE563J	56K ohm	**
R420	VRD-ST2EE104J	100K ohm	**	R717	VRD-ST2EE560J	56 ohm	**	R851	VRD-ST2EE332J	3.3K ohm	**	R921	VRC-MT2HG331K	330 ohm, 1/2W, ±10%, Carbon	**
R421	VRD-ST2EE224J	220K ohm	**	R718	VRD-ST2EE561J	560 ohm	**	R852			**	R922	VRD-ST2EE563J	56K ohm	**
R422	VRD-ST2EE333J	33K ohm	**	R719	VRD-ST2EE221J	220 ohm	**	R853	VRD-ST2EE473J	47K ohm	**	R923	VRC-MT2HG331K	330 ohm, 1/2W, ±10%, Carbon	**
R423	VRD-ST2EE332J	3.3K ohm	**	R720	VRC-MT2HG101K	100 ohm, 1/2W, ±10%, Carbone	**	R854			**	R924	VRD-ST2EE563J	56K ohm	**
R424	VRD-ST2EE333J	33K ohm	**	R721	VRC-MT2HG561K	560 ohm, 1/2W, ±10%, Carbon	**	R859	VRD-ST2EE181J	180 ohm	**	R925	VRD-ST2EE682J	6.8K ohm	**
R501	VRD-ST2EE102J	1K ohm	**	R722	VRG-ST2EA101J	100 ohm, Fusible	AB	R860			**	R926	VRD-ST2EE183J	18K ohm	**
R502	VRD-ST2EE682J	6.8K ohm	**	R723	VRD-ST2EE471J	470 ohm	**	R861	VRD-ST2EE472J	4.7K ohm	**	R927			**
R503	VRD-ST2EE103J	10K ohm	**	R724	VRG-ST2EE4R7J	4.7 ohm, Fusible	AB	R862			**	R928	VRD-ST2EE100J	10 ohm	**
R504	VRD-ST2EE221J	220 ohm	**	R725	VRD-ST2EE103J	10K ohm	**	R863	VRD-ST2EE103J	10K ohm	**	R929	VRD-ST2EE473J	47K ohm	**
R505	VRD-ST2EE333J	33K ohm	**	R726	VRD-ST2EE220J	22 ohm	**	R864			**	R930	VRD-ST2EE563J	56K ohm	**
R506	VRD-ST2EE102J	1K ohm	**	R727	VRD-ST2EE182J	1.8K ohm	**	R865			**	R932	VRD-ST2EE273J	27K ohm	**
R507	VRD-ST2EE561J	560 ohm	**	R728	VRD-ST2EE223J	22K ohm	**	R866			**	R933	VRD-ST2EE473J	47K ohm	**
R508	VRD-ST2EE102J	1K ohm	**	R729	VRD-ST2EE272J	2.7K ohm	**	R867	VRD-ST2EE223J	22K ohm	**	R934			**
R509	VRD-ST2EE224J	220K ohm	**	R730			**	R868			**	R935	VRD-ST2EE102J	1K ohm	**
R510			**	R731	VRC-MT2HG181K	180 ohm, 1/2W, ±10%, Carbon	**	R869			**	R936			**
R511	VRD-ST2EE333J	33K ohm	**	R732			**	R870			**	R937	VRD-ST2EE560J	56 ohm	**
R512	VRD-ST2EE222J	2.2K ohm	**	R801	VRD-ST2EE101J	100 ohm	**	R871	VRD-ST2EE124J	120K ohm	**	R938	VRD-SU2EY100J	10 ohm	**
R513	VRD-ST2EE123J	12K ohm	**	R802			**	R872			**	R939	VRD-ST2EE122J	1.2K ohm	**
R514	VRD-ST2EE472J	4.7K ohm	**	R803	VRD-ST2EE684J	680K ohm	**	R873	VRD-ST2EE105J	1 Meg ohm	**	R940	VRD-ST2EE1R0J	1 ohm	**
R515	VRD-ST2EY101J	100 ohm	**	R804			**	R874			**				**
R601	VRD-ST2EE333J	33K ohm	**	R805	VRD-ST2EE823J	82K ohm	**	R875	VRD-ST2EE273J	27K ohm	**				**
R602			**	R806			**	R876			**				**
R603	VRD-ST2EE124J	120K ohm	**	R807	VRD-ST2EE821J	820 ohm	**	R877	VRD-ST2EE822J	8.2K ohm	**				**
R604			**	R808			**	R878			**				**
R606	VRG-ST2EA101J	100 ohm, Fusible	AB	R809	VRD-ST2EE222J	2.2K ohm	**	R879	VRD-ST2EE122J	1.2K ohm	**				**
R607	VRD-ST2EE222J	2.2K ohm	**	R810			**	R880			**				**
R608			**	R811	VRD-ST2EE104J	100K ohm	**	R881	VRD-ST2EE182J	1.8K ohm	**				**
R609	VRD-ST2EE104J	100K ohm	**	R812			**	R882			**				**
R610			**	R813	VRD-ST2EE563J	56K ohm	**	R883	VRD-ST2EE103J	10K ohm	**				**
R613	VRD-ST2EE102J	1K ohm	**	R814			**	R884			**				**
R614			**	R815	VRD-ST2EE395J	3.9 Meg ohm	**	R885	VRD-ST2EE680J	68 ohm	**				**
R615	VRD-ST2EE822J	8.2K ohm	**	R816			**	R886			**				**
R616			**	R817	VRD-ST2EE104J	100K ohm	**	R887	VRD-ST2EE123J	12K ohm	**				**
R617	VRD-ST2EE182J	1.8K ohm	**	R818			**	R888			**				**
R618			**	R819	VRD-ST2EE223J	22K ohm	**	R889	VRD-ST2EE681J	680 ohm	**				**
R619	VRD-ST2EE560J	56 ohm	**	R820			**	R890			**				**
R620			**	R821	VRD-ST2EE562J	5.6K ohm	**	R891	VRD-ST2EE330J	33 ohm	**				**
R621	VRD-ST2EE103J	10K ohm	**	R822			**	R892			**				**
R622			**	R823	VRD-ST2EE472J	4.7K ohm	**	R893	VRD-ST2EE123J	12K ohm	**				**
R623	VRD-ST2EE152J	1.5K ohm	**	R824			**	R894			**				**
			**	R825	VRD-ST2EE473J	47K ohm	**	R895	VRD-ST2EE392J	3.9K ohm	**				**
			**	R826			**	R896			**				**
			**	R827	VRD-ST2EE333J	33K ohm	**	R897	VRD-ST2EE100J	10 ohm	**				**
			**	R828			**	R898			**				**
			**				**	R899	VRD-ST2EE123J	12K ohm	**				**
			**				**	R900			**				**

PLAYER PARTS

001	91Z846388-2	Cabinet, Player	—
002	91Z895637-5	Spring, Leg	—
003	91Z895637-6	Spring, Leg	—
006	91Z890432-4	Cushion, Leg	—
007	91Z871173-2	Sub-chassis Ass'y	—
008	91Z700514-1	Bearing Ass'y, Turntable	—
009	91Z895248	Return Gear Ass'y	—
010	91Z894901	Plate, Clutch	—
011	91Z894902	Guide, Clutch	—
012	91Z870933	Arm, Operation	—
013	91Z870932	Base, Operation Arm	—
014	91Z890218	Lever, Kick	—
015	91Z891191	Spring, Kick Lever	—
016	91Z895619	Operation Plate Ass'y	—
017	91Z895073	Shaft, Eccentric	—
018	91Z894905	Arm, Switching	—
019	91Z895252	Spring, Switching Arm	—
020	91Z895251	Spring, Operation Plate	—
021	91Z891849	Terminal Strip (6 Pin)	—
022	91Z890334	Switch, Motor (SW5)	—
023	91Z894408	Holder, Wire	—

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
025	91Z896923	Connector Ass'y (CNS51)	—	118	LX-BZ0219AFFD	Screw, Motor Retaining	—
027	91Z895153	Plate, Motor Switch Retaining	—	119	LX-BZ0229AFFD	Screw, Micro Switch	—
028	91Z890430-4	Rest Stand Ass'y	—			(SW10, 11) Retaining	—
029	91Z851188	Pick-up Ass'y	—	120	LX-WZ9051AFZZ	Washer, Capstan Oil Cut	—
030	91Z895330	Control Arm Ass'y	—	121	MLEVF0514AFFW	Lever, Take-up Idler Release	—
031	91Z896915	Connector Ass'y (CNS702)	—	122	MLEVF0634AFFD	Lever, Lock Lever Release	—
032	91Z10002-51	Terminal Strip (5 Pin)	—	123	MLEVF0635AFZZ	Lever, Solenoid	—
033	91Z892488-1	Holder, Wire	—	124	MLEVF0637AFFD	Lever, Sub-chassis Return	—
034	91Z631588	Motor with Motor Control P.W.B. Ass'y	—	125	MLEVF0638AFFW	Lever, APSS Safety	—
				126	MLEVF0785AFFN	Lever, Playback/Record Key Lock	—
035	91Z893931	Bracket, Motor	—			Lever, Fast Forward/Rewind Key Lock	—
036	91Z894021	Pulley	—	127	MLEVF0641AFFN		—
037	91ZE-242020	Cushion, Motor	—	128	MLEVF0710AFZZ	Lever Ass'y, APSS Function	—
038	91ZE-234971	Spacer, Motor Retaining	—	129	MLEVF0712AFZZ	Lever Ass'y, Muting Switch	—
039	91Z832380	Spacer, Motor Control P.W.B. Retaining	—	130	MLEVF0713AFZZ	Lever Ass'y, Brake	—
040	91Z896920	Cover, Stroboscope Lamp	—	131	MLEVF0714AFZZ	Lever Ass'y, Pause	—
041	91Z896921	Cover, Stroboscope Lamp	—	132	MLEVF0715AFZZ	Lever, Fast Forward	—
042	91Z871602	Switch, Speed Selector (SW13)	—	133	MLEVF0720AFFW	Lever, Record	—
043	JKNBP0065AFSC	Button, Speed Selector Switch (91Z896978)	AC	134	MLEVP0031AFZZ	Lever, Take-up Idler	—
				135	MLEVP0080AFZZ	Lever, Record Safety	—
044	91Z890065-5	Shaft, Operation	—	136	MLEVP0095AG00	Lever, Eject	—
045	91Z895583-1	Lever, Operation	—	137	MSPRC0031AGMN	Spring, Record/Playback Head Azimuth	—
046	91Z890064	Arm, Operation Lever	—			Spring, Muting Switch (SW7)	—
047	91Z892086-8	Spring, Operation Lever Arm	—	138	MSPRC0120AFFJ	Spring, Solenoid	—
048	91Z702279	Turntable Shaft Ass'y	—	139	MSPRC0123AFFJ	Spring, Pressure Roller	—
049	91ZE-271110	Stopper, Turntable Shaft	—	140	MSPRD0129AFFJ	Spring (Plate type), Cassette Hold	—
050	91Z700515	Belt	—	141	MSPRP0131AFFW	Spring (Plate type), Sub-chassis Retaining	—
051	91Z620036	Turntable	—			Spring, Record Lever	—
052	91Z871625	Sheet, Turntable	—	142	MSPRP0136AFFW	Spring, Stop/Eject Key	—
053	91Z890876	EP Adaptor	—	143	MSPRT0253AGFJ	Spring, Eject Lever	—
054	91Z895917	Plate, Player Cabinet	—	144	MSPRT0254AGFJ	Spring, Lock Lever	—
055	91Z896062	Bracket, Lock	—	145	MSPRT0258AGFJ	Spring, Play/Fast Forward/ Rewind/Pause Key	—
056	91Z703062	500 ohm (B), Pitch Control VR3: 33-1/3 rpm VR4: 45 rpm	—	146	MSPRT0259AGFJ	Spring, Muting Switch Lever	—
				147	MSPRT0266AGFJ	Spring, Brake/APSS Function Lever	—
057	91Z896919	Knob, Pitch Control	—			Spring, Fast Forward/Rewind Roller	—
058	91Z896918	Plate, Switch/Volume Retaining	—	148	MSPRT0400AFFJ	Spring, APSS Safety Lever	—
				149	MSPRT0401AFFJ	Spring, Sub-chassis Return	—
059	91Z894001-5	Neon Lamp, Stroboscope (NE1)	—			Spring, Fast Forward/Rewind Roller	—
060	91Z896917	Operation Plate	—	150	MSPRT0402AFFJ	Spring, APSS Safety Lever	—
				151	MSPRT0403AFFJ	Spring, Take-up Idler	—
				152	MSPRT0404AFFJ	Spring, Record Safety Lever	—
				153	MSPRT0405AFFJ	Spring, Fast Forward/Rewind Roller	—
101	JKNBR0111AFSA	Key, REW/PLAY/FF/STOP/ PAUSE	—	154	MSPRT0416AFFJ	Spring, Pause Lever	—
102	LANGF0401AFFW	Bracket, P.W. Board	—	155	MSPRT0408AFFJ	Spring, Take-up Idler	—
103	LANGF0402AFFW	Bracket, Main Chassis	—	156	MSPRT0453AFFJ	Spring, Record Safety Lever	—
104	LANGF0394AFZZ	Bracket, Function Key, Shaft	—	157	MSPRT0478AFFJ	Spring, Fast Forward/Rewind Roller	—
105	LANGT0547AFFW	Bracket, Flywheel	—			Ball, 3φ	—
106	LANGT0614AFZZ	Bracket, Motor	—	158	NBALS0004AGFJ	Belt, Drive	AD
107	LANGT0615AFZZ	Bracket, Plunger	—	159	NBLTH0060AFSA	Bearing, Capstan	—
108	LANGT0617AFZZ	Bracket, Ass'y, Micro Switch (SW10, 11)	—	160	NBRGC0053AFZZ	Turntable, Take-up	AG
109	LBSSH0001AG00	Cushion Rubber, Motor	—	161	NDAIR0114AFSA	Turntable, Supply	AE
110	LCHSM0272AFZZ	Main Chassis Ass'y	—	162	NDAIR0115AFSA	Flywheel	AR
111	LCHSS0115AFFD	Sub-chassis	—	163	NFLYC0056AFZZ	Idler, Take-up	—
112	LDAIH0051AFZZ	Block, Head Mounting	—	164	NIDR-0021AGZZ	Pulley, Take-up	—
113	LSLVM0058AFFW	Sleeve, Lock Lever Release Lever	—	165	NPLYR0050AFZZ	Roller Ass'y, Fast Forward/ Rewind	AH
				166	NROLV0006AFZZ		—
114	LSLVM0061AFFW	Sleeve, APSS Function Lever	—	167	NROLX0003AFZZ	Gear, Rewind	AB
115	LSLVM0062AFFW	Sleeve, APSS Function Lever	—	168	NROLY0001AFZZ	Pressure Roller Ass'y	AG
116	LSTPF0052AFFW	Retainer, Function Key Shaft	—	169	NSFTZ0062AFFP	Shaft, Function Key	—
117	LX-BZ0214AGZZ	Screw, Flywheel Thrust Adjust	—				—

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
170	PCOVW9107AFZZ	Insulator, Tape Selector Switch (SW11)	AA	M1	Not Available	Player Motor Ass'y (Player Parts 034)	N.A.
171	PCUSG0061AF00	Cushion Rubber, Sub-chassis	AB	M2	RMOTV0062AFZZ	Motor, Tape Deck	AX
172	PCUSS0077AFZZ	Cushion, Lock Lever	—	PL1,	RLMPM0067AFZZ	Lamp, Dial Illumination	AE
173	PFLT-0284AFZZ	Rubber, Lock Lever	—	PL2			
174	PGIDS0006AGFW	Pivot, Fast Forward Lever	—	PL3,			
175	PGUMM0114AF00	Rubber, APSS Function Lever	—	PL4,	RLMPM0071AFZZ	Lamp, Meter Illumination	AD
176	PSHEF0112AF00	Cushion, Main Chassis	—	PL5	RLMPM0068AFZZ	Lamp, REV APSS	AD
177	QPWBF0610AFZZ	P.W. Board, Mechanism (PWB only)	—	PL6		Lamp, FWD APSS	AD
178	RHEDA0059AFZZ	Head, Erase	AK	PL7		Lamp, REC	AD
179	RHEDH0065AFZZ	Head, Record/Playback	AX	PL8	RLMPM0068AFZZ	Lamp, DOLBY NR	AD
180	KCOUB0065AFZZ	Counter with Full Auto Stop Sensor, Ass'y	AU	PL9	RLMPM0067AFZZ	Lamp, Dial Illumination	AE
181	NBLTK0115AFZZ	Belt, Counter	AC	PL10,			
182	JKNBR0111AFSB	Key, REC	AD	PL11			
183	LSLVM0074AFFW	Sleeve, Record Lever	—	SOL501	RPLU-0060AFZZ	Solenoid	AP
184	LSLVM0069AFFW	Spacer, Fast Forward Rewind Roller Ass'y	—	SO1	QSOD2259AFZZ	Socket, FM ANT.	AD
185	PSPAD0050AFFW	0.1 mm	—	SO2	QSOD2260AFZZ	Socket, AM ANT.	AE
	PSPAD0051AFFW	0.2 mm	—	SO4	QSOD2257AFZZ	Socket (DIN), REC/PB	AF
	PSPAD0052AFFW	0.3 mm	—	SO5	QSOD2258AFZZ	Socket, Speaker (L-ch)	AE
		Adjustment	—	SO6	QSOD2258AFZZ	Socket, Speaker (R-ch)	AE
186	LX-WZ0014AGFK	Washer, P.W.B. Retaining	—	SO51	QSOCE0559AFZZ	Voltage Selector	AH
187	LHLDW3056AFZZ	Holder, Wire	AA	SW1	QSW-P0151AFZZ	Push Switch Ass'y	AX
				(A ~ L)		A: U-FM	
						B: K-SW	
						C: M-MW	
						D: L-LW	
						E: Phono	
						F: Tape	
						G: AUX/MIC	
						H: Loudness Switch	
						I: AFC	
CNP7	Not Available	Plug, 3 Pin (Par of 180)	N.A.	SW2 (A ~ C)	QSW-P0152AFZZ	J: FM Muting Switch	AM
CNP51	QCNCW154CAFZZ	Plug, 3 Pin	AC			K: Mono Switch	
CNP301	QCNCM180LAFZZ	Plug, 11 Pin	AC			L: Audio Muting	
CNP302	QCNCM179KAFZZ	Plug, 10 Pin	AC			Push Switch Ass'y	
CNP303	QCNCM176GAFZZ	Plug, 7 Pin	AC			A: Fe-Cr	
CNP401	QCNCM176GAFZZ	Plug, 7 Pin	AC			B: Dolby NR	
CNP501	QCNCM123QAFZZ	Plug, 15 Pin	AF			C: ALC	
CNP701	QCNCM176GAFZZ	Plug, 7 Pin	AC			QSW-S0192AFZZ	
CNP702	QCNCM184EAFZZ	Plug, 5 Pin	AD			Switch, Record/Playback	AG
CNP801	QCNCM0806SGZZ	Plug, 8 Pin	AE			QSW-S0191AFZZ	AE
	QCNCM114FAFZZ	Connecting Plug, 6 Pin	AD				
	QCNCM115GAFZZ	Connecting Plug, 7 Pin	AD	SW4 (A, B)	QSW-S0191AFZZ	Switch, RIF	AE
	QCNCM119LAFZZ	Connecting Plug, 11 Pin	AE				
	QCNCM121NAFZZ	Connecting Plug, 13 Pin	AE	SW5	Not Available	Phono Motor Switch (Player Parts 022)	N.A.
	QCNCM128VAFZZ	Connecting Plug, 20 Pin	AF				
CNS7	QCNCW086CAFZZ	Socket, 3 Pin	AB	SW6	QSW-S0185AFZZ	Siwtch, Transport A	AG
CNS51	Not Available	Connector Ass'y (Player Parts 025)	N.A.	SW7	QSW-S0174AFZZ	Switch, Audio Muting	AG
CNS301	QCNCW151LAFZZ	Socket, 11 Pin	AB	SW8	QSW-S0188AFZZ	Switch, APSS	AE
CNS302	QCNCW150KAFZZ	Socket, 10 Pin	AB	SW9	QSW-S0188AFZZ	Switch, Transport B	AE
CNS303	QCNCW147GAFZZ	Socket, 7 Pin	AB	SW10	QSW-M0058AFZZ	Switch, Transport C	AG
CNS401	QCNCW147GAFZZ	Socket, 7 Pin	AB	SW11	QSW-M0057AFZZ	Switch, Auto Tape Selector	AG
CNS501	QCNCW141QAFZZ	Socket, 15 Pin	AC	SW12	QSW-P0175AFZZ	Switch, Power	**
CNS701	QCNCW147GAFZZ	Socket, 7 Pin	AB	(A, B)			
CNS702	Not Available	Connector Ass'y (Player Parts 031)	AB	SW13	Not Available	Speed Selector Switch (Player Parts 042)	N.A
CNS801	QCNCW0805SGZZ	Socket, 8 Pin	AC	201	CSPRT0304AF17	Dial Cord Ass'y (Refer to Fig. 5)	—
F51	QFS-C202CAGNI	Fuse, 2AT	AE	202	GCABA1483AFSA	Cabinet, Top	**
F701	QFS-C122CAGNI	Fuse, 1.25AT	AE	203	GCABBI483AFSA	Cabinet, Bottom	**
F702	QFS-C122CAGNI	Fuse, 1.25AT	AE	204	GCOVA1085AFSA	Cover, Hinge (Right)	AC
F703	QFS-C402CAGNI	Fuse, 4AT	AE	205	GCOVA1086AFSA	Cover, Hinge (Left)	AC
J1	QJAKJ0053AFZZ	Jack, Microphone (L-ch)	AH	206	GCOVA1088AFSA	Dust Cover	BD
J2	QJAKJ0053AFZZ	Jack, Microphone (R-ch)	AH	207	GCOVA1091AFSC	Cover, FM Pre-set	**
J3	QJAKJ0053AFZZ	Jack, Headphones	AH	208	GCOVA1092AFSA	Cover, FM Pre-set Indicator	AE
ME1	RMTRE0163AFZZ	Meter, L-ch Level	AT	209	GCOVD3006AFSA	Cover, FM ANT. Socket	AA
ME2	RMTRE0073AFZZ	Meter, R-ch Level/Tuning	AT				
ME3	RMTRE0074AFZZ	Meter, U-FM	AT				

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
210	GDAI-1004AFZZ	Base, Hinge (Right)	AC	264	MARMP0003AFZZ	Arm, Dust Cover (Right)	AD
211	GDAI-1005AFZZ	Base, Hinge (Left)	AC	265	MARMP0004AFZZ	Arm, Dust Cover (Left)	AD
212	GFTAC1085AFSA	Holder, Cassette	**	266	MLEVF0614AFZZ	Lever, Cassette Holder Eject	AB
213	GFTAU3068AFZZ	Cover, Cabinet Bottom (Refer to Fig. 3)	AL	267	MLEVF0783AFZZ	Lever, Record (Refer to Fig. 52)	AE
214	HBDGB3001CESA	Badge, SHARP	AD	268	MLEVP0025AG00	Lever, Cassette Holder Lock	AB
215	HDALP0397AFSA	Dial Scale Plate	**	269	MSPRC0150AFFJ	Spring, Hinge	AC
216	HDAP-0171AFSA	Bracket, Dial Scale Plate	AN	270	MSPRD0174AFFJ	Spring, Hinge Base (Right)	AC
217	HDEC0018AGS	Mirror, Cassette Compartment	AA	271	MSPRD0175AFFJ	Spring, Hinge Base (Left)	AC
218	HDECQ0064AFSA	Decoration Cover, REC (Orange)	AB	272	MSPRP0129AFFW	Spring, Cassette Holder	AB
219	HDECQ0064AFSB	Decoration Cover, DOLBY NR (Green)	AB	273	MSPRT0304AFFJ	Spring, Dial Cord (Refer to Fig. 5)	AA
220	HDECQ0065AFSA	Decoration Cover, APSS (Green)	AC	274	MSPRT0388AFFJ	Spring, Cassette Holder Lock	AA
221	HINDM1242AFSA	Indication Metal, Model	**	275	MSPRT0564AFFJ	Spring, Cassette Holder up	**
222	HSSND0236AFSA	Pointer, Dial Cord (Fig. 5)	AE	276	NDRM-0002SGZZ	Drum, Dial Cord (Refer to Fig. 5)	AH
223	JKNBN0371AFSA	Knob, Tuning	**	277	NPLYB0001SGZZ	Pulley, Dial Cord (Large)	AB
224	JKNBN0358AFSA	Knob, FM Pre-set	AB	278	NPLYB0053AF00	Pulley, Dial Cord (Small)	AB
225	JKNBP0075AFSA	Knob, REC LEVEL/BASS/TREBLE/VOLUME	AC	279	NPLYC0101AFFD	Shaft, Dial Cord Pulley (Large) (Refer to Fig. 5)	AA
226	JKNBZ0134AFSA	Knob, Push Switch	AB	280	NSFTD0177AFZZ	Shaft, Tuning (Fig. 5)	AL
227	JKNBZ0135AFSA	Touch Key FM Pre-set	AB	281	PCOVU8106AFZZ	Cover, Lamp (APSS/DOLBY NR/REC)	AD
229	LANGF0404AFZZ	Bracket, Switch PWB Combination	AA	282	PCOVU8107AFZZ	Cover, Dial Lamp	AB
230	LANGF0413AFZZ	Bracket, Cabinet Bottom	AC	283	PCUSF0007AF00	Felt, Push Switch Knob	AC
231	LANGF0414AFZZ	Bracket, Push Switch Knob	AD	284	PCUSF0006AF00	Cushion, Power Switch Knob	AA
232	LANGK0181AFZZ	Plate, Hinge Retaining	AB	285	PCUSG0080AF00	Cushion Rubber, Player Leg	AB
233	LANGQ0477AFZZ	Bracket, Semi-VR PWB	AB	286	PFLT-0348AFZZ	Felt, Leg	AB
234	LANGQ0531AFZZ	Bracket, Tape Deck PWB (Right)	AC	287	PFLT-0319AF00	Felt, Volume	AB
235	LANGQ0532AFZZ	Bracket, Tape Deck PWB (Left)	AD	288	PFLT-0327AF00	Felt, FM Pre-set	AC
236	LANGQ0533AFZZ	Bracket, Tape Deck PWB (Front)	AA	289	PGIDH0051AFZZ	Holder, Eject Lever	AA
237	LANGQ0534AFZZ	Bracket, Tuner PWB Retaining	AB	290	PGUMM0061AG00	Cushion Rubber, Cabinet Top	AB
238	LANGQ0535AFZZ	Bracket, FM STEREO Indicator	AB	292	PRDAR0101AFFW	Heatsink, Transistor	AB
239	LANGR0422AFZZ	Bracket, Tone PWB Retaining	AF	293	PRDAR0171AFZZ	Heatsink, IC	**
240	LANGR0442AFZZ	Bracket, Power Transformer	**	295	PREFL0064AFZZ	Bracket, Dial Lamp	—
241	LANGR0424AFZZ	Bracket, Power Switch	AB	296	PSLDC3064AFZZ	Shield, Tone PWB	AF
242	LANGR0425AFZZ	Bracket, Touch Key	AE	298	PSLDM7112AFZZ	Shield, Cabinet Bottom	**
243	LANGT0633AFZZ	Bracket, Tuning Shaft	AC	299	PSPAIO122AFZZ	Spacer, Tape Deck PWB Bracket (Left)	AA
244	LANGT0634AFZZ	Bracket, Dial Scale (Right)	AD	300	PSPAIO135AFZZ	Fiber, Power Switch Knob	AA
245	LANGT0635AFZZ	Bracket, Dial Scale (Left)	AD	301	PSPAIO136AFZZ	Fiber, Cabinet Top	**
247	LBSHC0004AGZZ	Bushing, Mains Supply Cord	AC	302	PSPAZO068AFZZ	Spacer, Turntable Retaining	AF
248	LBSHZ0053AFZZ	Bushing, Lamp (APSS/DOLBY NR/REC)	AA	303	PSPAZO071AFZZ	Spacer, Player Cabinet Back	AA
249	LCHSM0271AFZZ	Main Chassis	—	304	PSPAZO073AFZZ	Spacer, Player Cabinet Front	AA
250	LHLDL01052AFZZ	Holder, AM Antenna	AD	305	PSPAZO073AFZZ	Spacer, Tape Deck PWB Bracket (Left)	AD
251	LHLDW1067AFZZ	Band, Wire (60 mm)	AA	306	PSTPK0005AGZZ	Stopper, Bar Antenna Coil	—
252	LHLDW1068AFZZ	Band, Wire (100 mm)	AA	307	LANGT0715AFZZ	Bracket, Heatsink Retaining (Right Side)	**
253	LHLDW9002CEZZ	Holder, Wire	AA	308	LANGT0716AFZZ	Bracket, Heatsink Retaining (Left Side)	**
254	LHLDW9003CEZZ	Holder, Wire	AA	309	LANGT0718AFZZ	Bracket, Friction Drum/Roller	**
255	LHLDZ1041AG00	Holder, FM STEREO Indicator	AB	310	LHLDW1075AFZZ	Band, Wire	**
256	LHLDZ3055AFZZ	Holder, Hinge	AE	311	MSPRT0554AFFJ	Spring, Cassette Holder up	**
257	LHLDZ8063AFZZ	Holder, Meter	AH	312	MSPRT0566AFFJ	Spring, Cassette Holder Opening String	**
258	LPLTM0104AFZZ	Washer, Hinge	AA	313	NDRM-0154AFZZ	Drum, Friction (Cassette Holder up)	**
259	LPLTZ0050AFZZ	Washer (Fiber), Hinge	AA	314	NROLM0064AFZZ	Roller, Friction (Cassette Holder up)	**
260	LSTPZ0051AFZZ	Stopper, Hinge Arm	AB	315	PCUSS0100AFZZ	Cushion, Push Switch Knob	AA
261	LX-BZ0244AFFJ	Shaft, Dial Cord Pulley (Small) (Refer to Fig. 5)	AA	316	QACCV0001AGZZ	Mains Supply Cord (KEMA)	AP
262	LX-JZ0002AFZZ	Screw, Turntable/Weight Retaining	AA				
263	LX-HZ0053AFFD	Screw with Washer, Tuner PWB Retaining	AA				

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
317	QFSHC2051AFZZ	Holder, Fuse (F51)	AD	QPWBF0649AFZZ	P.W. Board, Tuner Switch	PWB only	—
318	QFSDH1001AGZZ	Holder, Fuse (F701, F702, F703)	AB	QPWBF0650AFZZ	P.W. Board, Touch Switch	PWB only	—
319	QLUGL0250AFZZ	Terminal Strip (2 Pin)	AC	SPAKA0477AFZZ	Packing Add., Front		AR
320	QLUGL0451AFZZ	Terminal Strip (4 Pin)	AD	SPAKA0478AFZZ	Packing Add., Back		AS
321	QLUGP0104AGZZ	Lug Terminal	AA	SPAKC1167AFZZ	Packing Case		**
322	QLUGP0111CEFW	Lug Terminal	AA	SPAKP0110AFZZ	Wrapping Sheet, Unit		AH
323	MSPRP0200AFFJ	Spring (Plate type), Power IC Retaining	**	SPAKP0111AFZZ	Sheet, Cabinet Protector (Both Sides)		AC
324	LX-HZ0068AFFD	Screw, Power IC Retaining	**	SPAKP0112AFZZ	Sheet, Cabinet Protector (Center)		AD
	QANTW0054AFZZ	FM Antenna (T Type)	AL	SPAKX0175AFZZ	Sheet, Turntable Sheet Protector		AC
	QPWBF0617AFZZ	P.W. Board, Tuner Switch	—	SSAKA0007SEZZ	Sack, Operation Manual etc.		AA
	QPWBF0618AFZZ	P.W. Board, Tape Deck Switch	—	TINSL0131AFZZ	Operation Manual (English/German/French/Swedish)		**
	QPWBF0757AFZZ	P.W. Board, Power	PWB only	TTAGH0045AFZZ	Tag (English/German/French/Swedish)		**
	QPWBF0646AFZZ	P.W. Board, Tone	—				
	QPWBF0760AFZZ	P.W. Board, Tuner	—				
	QPWBF0648AFZZ	P.W. Board, Tape Deck/Semi-VR/Lamp	—				

DIFFERENCE BETWEEN TYPE A (IC104, 105: HA1452W Used) AND TYPE B (IC104, 105: LM387N, NE542N Used)

REF. NO.	TYPE (A)	TYPE (B)	CODE
	PART NO.	PART NO.	DESCRIPTION
IC (Integrated Circuit)			
IC104	RH-IX0427AGZZ	VHILM387N//1F	Phono Equalizer Amp. (LM387N)
IC105	RH-IX0427AGZZ	VHILM387N//1F	Mic. Pre-Amp. (LM387N) → Not NE542N
DIODES			
D201	Not Used	VHD1S2076//1	Protector, Reverse Current (1S2076)
ZD201	Not Used	VHEXZ-064//1	Level Shift for Audio Muting (XZ-064)
ELECTROLYTIC CAPACITORS			
C154	VCEAAU1EW227Y	VCEAAU1EW227Y	220MFD, 25V, +50 -10%
C155, C156	VCEALU1EW475M	VCEALU1EW475M	4.7MFD, 25V, ±20%
C157, C158	VCEAAU1CW106Y	Not Used	—
C159, C160	VCEAAU1CW336Y	VCEALU1HC105M	1MFD, 50V, ±20%, Low Reak
C169, C170	VCEAAU1HW105A	VCEAAU1HW105A	1MFD, 50V, +75 -10%
C171, C172	VCEALU1EW475M	VCEALU1EW475M	4.7MFD, 25V, ±20%, Low Noise
C173, C174	VCEAAU1CW106Y	Not Used	—
C175, C176	VCEAAU1CW336Y	VCEALU1HW334M	.33MFD, 50V, ±20%, Low Noise
C181, C182	VCEALU1HW474M	VCEALU1HW474M	.47MFD, 50V, ±20%, Low Noise
C184	VCEAAU1EW107Y	VCEAAU1EW107Y	100MFD, 25V, +50 -10%
C207	Not Used	VCEAAU1EW107Y	100MFD, 25V, +50 -10%

REF. NO.	TYPE (A)	TYPE (B)		CODE
	PART NO.1	PART NO.	DESCRIPTION	
CAPACITORS				
C161, C162 C163, C164 C165, C166 C167, C168 C177, C178 C179, C180 C185, C186 C187, C188 C189, C190 C193, C194 C201, C202 C203, C204, C205, C206	VCCSPU1HL471K VCQYKU1HM222J VCQYKU1HM822J VCCSPU1HL151K VCKZPU1HF102P VCCSPU1HL151K VCCSPU1HL560K VCCSPU1HL152K VCKYPU1HB152K VCCSPU1HL331K Not Used Not Used	VCCSPU1HL471K VCQYKU1HM272K VCQYKU1HM152K Not Used VCKZPU1HF102P Not Used VCCSPU1HL150K VCCSPU1HL152K VCKYPU1HB472K Not Used VCKYPU1HB152K VCCSPU1HL150K	470PF, 50V, ±10%, Ceramic .0027MFD, 50V, ±10%, Mylar .0015MFD, 50V, ±10%, Mylar _____ .001MFD, 50V, +100 -0%, Ceramic _____ 15PF, 50V, ±10%, Ceramic .0015MFD, 50V, ±10%, Ceramic .0047MFD, 50V, ±10%, Ceramic _____ .0015MFD, 50V, ±10%, Ceramic 15PF, 50V, ±10%, Ceramic	** ** ** — ** ** ** ** ** ** — ** **
RESISTORS				
R168 R169, R170 R173, R174 R175, R176 R177, R178 R179, R180 R181, R182 R183, R184 R187, R188 R189, R190 R191, R192 R193, R194 R195, R196 R197, R198 R199, R200 R201, R202 R203, R204 R205, R206 R207 R209, R210 R221, R222 R223, R224 R225, R226 R227, R228 R229	VRG-ST2EA101J VRD-ST2EE104J VRD-ST2EE152J VRD-ST2EE222J VRD-ST2EE104J VRD-ST2EE563J VRD-ST2EE333J VRD-ST2EE394J VRD-ST2EE153J VRD-ST2EE104J VRD-ST2EE123J VRD-ST2EE821J VRD-ST2EE104J VRD-ST2EE222J VRD-ST2EE563J VRD-ST2EE823J VRD-ST2EE560J VRD-ST2EE153J VRG-ST2EA101J VRD-ST2EE560J Not Used Not Used Not Used Not Used	VRD-ST2EE821J VRD-ST2EE104J VRD-ST2EE103J VRD-ST2EE222J Not used VRD-ST2EE332J Not Used VRD-ST2EE563J VRD-ST2EE153J Not Used VRD-ST2EE123J Not Used Not Used VRD-ST2EE222J VRD-ST2EE822J VRD-ST2EE684J VRD-ST2EE473J VRD-ST2EE153J VRD-ST2EE821J VRD-ST2EE560J VRD-SU2EY125J VRD-ST2EE473J VRD-SU2EE184J VRD-SU2EE104J VRD-ST2EE223J	820 ohm 100K ohm 10K ohm 2.2K ohm _____ 3.3K ohm _____ 56K ohm 15K ohm _____ 12K ohm _____ _____ 2.2K ohm 8.2K ohm 680K ohm 47K ohm 15K ohm 820 ohm 56 ohm 1.2 Meg ohm 47K ohm 180K ohm 100K ohm 22K ohm	** ** ** ** — — — ** ** — ** — — ** ** ** ** ** ** ** ** ** ** ** ** **

SHARP

HOW TO REPLACE

Power IC., Part Cord; VHiSTK4432 / -I

No.0-072
0387

パワーIC $\frac{\text{VHiSTK4432/-i}}{120\ 573\ 0138}$ 取付説明書

The VHiSi1630HD-I (Si1630HD) was discontinued, please use the VHiSTK4432 / -I (STK4432) as replacement IC for after servicing in accordance with the following procedure.

このICは、VHiSi1630HD-Iが生産中止の為、代替使用致しますので以下の要領でご使用下さい。

MODELS SG-460H. SG-460E

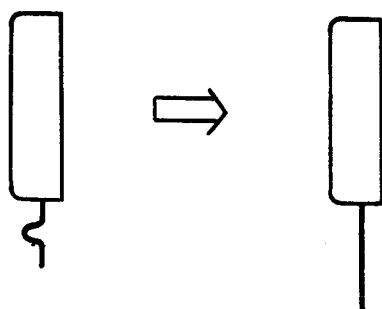
HOW TO REPLACE

取付方法

1. Fig. 1に従って、フォーミングリードをストレートリードに加工して下さい。

PLEASE STRAIGHTEN OUT THE FORMING LEAD WIRE ACCORDING TO BELOW FIG. 1

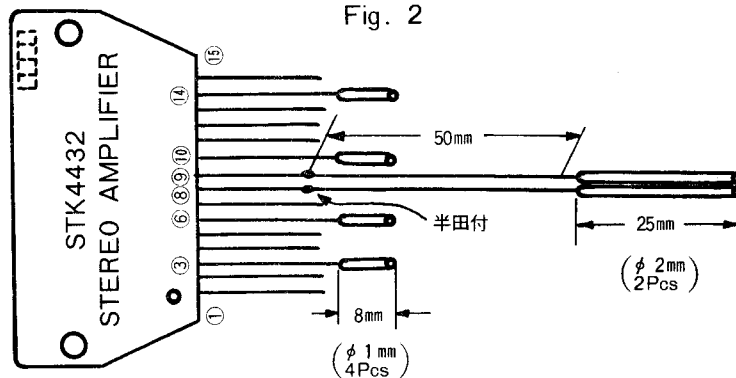
Fig. 1



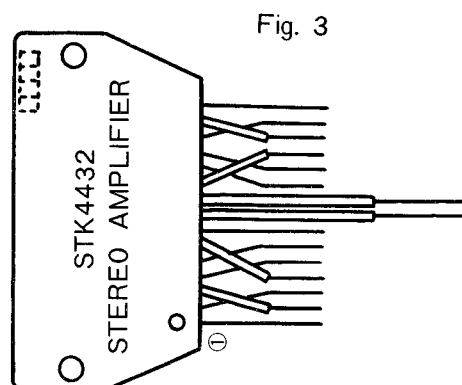
- 1-2 Fig. 2に従って、リードを加工して下さい。

PLEASE EXTEND WIRES NOS. ⑧ ⑨, AND TREAT GLASS TUBE IN ACCORDANCE WITH FOLLOWING PROCEDURES FIG. 2 AND FIG.3.

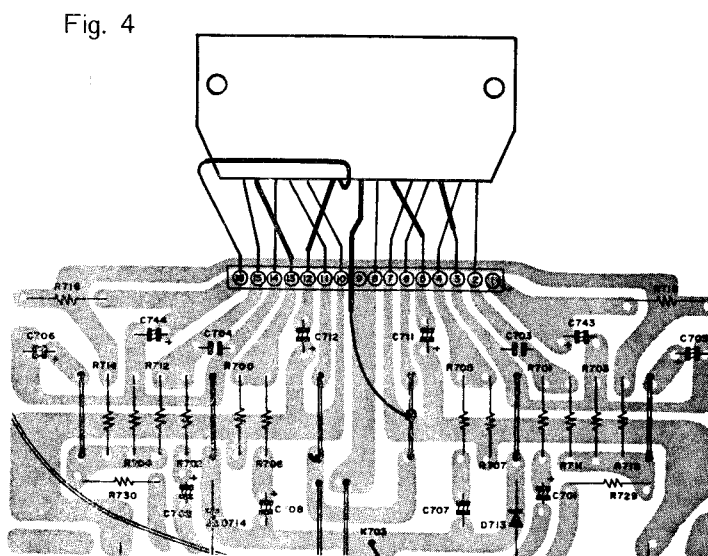
Fig. 2



1-3. Fig. 3に従ってリードフオーミングして下さい。



2. Fig. 4に従ってICリードプリント基板へ挿入し半田付、配線して下さい。
AS TO WIRING, PLEASE SEE BELOW FIG. 4 AND FIG. 5



3. Fig. 5に従って、ICをラジエーターに取り付けて下さい。

